CORRECTIVE ACTION PROCESS REPORT/PLAN COVER SHEET

CHAPTER 245 - STORAGE TANK AND SPILL PREVENTION ACT

Storage Tank Facility ID #: 51-33620

Consultant Name: Terraphase Engineering Inc.

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Responsible Party Name: Bellwether District Holdings, LLC

Responsible Party Mailing Address: 3144 West Passyunk Ave., Philadelphia, PA 19153

Responsible Party Email Address: apiccone@hilcoglobal.com

Media of Concern: [X] **Soil** [ ] **Groundwater**

Contaminant(s) (*e.g. unleaded gasoline*)**:** petroleum products

(check all that apply to the enclosed submission)

- [ ] **Remedial Action Progress Report**
- [ ] **Risk Assessment Report** (***e.g. vapor intrusion, ecological, or human health risk calculations***)
- [ ] **Site Characterization Report – Section 245.310(b)**
  - [ ] Residential [ ] Nonresidential
- [ ] **Site Characterization Report – Statewide Health or Background Standard**
  - [ ] Residential [ ] Nonresidential
- [ ] **Site Characterization Report – Site Specific Standard**
  - [ ] Residential [ ] Nonresidential
- [ ] **Remedial Action Plan – Statewide Health or Background Standard**
  - [ ] Residential [ ] Nonresidential
- [ ] **Remedial Action Plan – Site Specific Standard**
  - [ ] Residential [ ] Nonresidential
- [ ] **Remedial Action Completion Report – Statewide Health or Background Standard**
  - [ ] Residential [ ] Nonresidential
- [ ] **Remedial Action Completion Report – Site Specific Standard**
  - [ ] Residential [ ] Nonresidential
- [ ] **Post Remediation Care Report**
- [ ] **Environmental Covenant**
  - [ ] Draft [ ] Final
- [X] **Other:** Release Investigation Report - No Impacts

FINAL

Release Investigation Report – Tank Group 04

Former Philadelphia Energy Solutions Refinery
3144 West Passyunk Avenue
Philadelphia, Pennsylvania
Incident #57976

Prepared for

Bellwether District Holdings, LLC
3144 West Passyunk Avenue
Philadelphia, Pennsylvania

Prepared by

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June 2025

Project Number P044.001.002

terraphase engineering

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Acronyms and Abbreviations

12DBA	1,2-dibromoethane
12DCA	1,2-dichloroethane
124TMB	1,2,4-trimethylbenzene
135TMB	1,3,5-trimethyl benzene
25 Pa. Code	Title 25 Pennsylvania Code
Act 2	Pennsylvania Land Recycling and Environmental Remediation Standards Act
Act 32	Storage Tank and Spill Prevention Act
ANT	apparent LNAPL thickness
AOI	Area of Interest
AST	aboveground storage tank
bgs	below ground surface
BaA	benzo(a)anthracene
BaP	benzo(a)pyrene
BbF	benzo(b)fluoranthene
BghiP	benzo(g,h,i)perylene
BDH	Bellwether District Holdings, LLC
CO&A	Consent Order and Agreement
COC	constituent of concern
DC	direct contact
Evergreen	Evergreen Resources Group, LLC; includes Sunoco, Inc. n/k/a ETC Sunoco Holdings LLC, Sunoco, Inc. (R&M) n/k/a Sunoco (R&M), LLC n/k/a Energy Transfer (R&M), LLC and Evergreen collectively referred to as “Evergreen”
the Facility	former Philadelphia Energy Solutions refinery facility
ft	feet or foot
Indeno	indeno(1,2,3-cd)pyrene
LNAPL	light non-aqueous phase liquid
MDL	method detection limit
mg/kg	milligrams per kilogram
MSC	medium specific concentration
MTBE	methyl tert-butyl ether
NIR	Notice of Intent to Remediate
Non-Res	non-residential
PADEP	Pennsylvania Department of Environmental Protection
PESRM	Philadelphia Energy Solutions Refining and Marketing LLC
PID	photoionization detector

RACR	Remedial Action Completion Report
RAP	Remedial Action Plan
Report	Release Investigation Report
RI	remedial investigation
RIR	Remedial Investigation Report
RL	reporting limit
RPD	relative percent difference
SCR	Site Characterization Report
SHS	Statewide Health Standard
the Site	Tank Group 04 location within the former Philadelphia Energy Solutions refinery facility
SGW	soil-to-groundwater
South Yard	Point Breeze Refinery South Yard
SVOC	semi-volatile organic compound
TDS	total dissolved solids
Terraphase	Terraphase Engineering Inc.
TPI	TPI Environmental, LLC
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
Work Plan	Aboveground Storage Tank Closure Work Plan

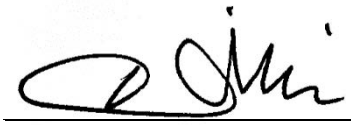
Certification

Pursuant to the requirements of the Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2), adopted May 19, 1995, which states:

> *Interpretation of geologic and hydrogeologic data shall be prepared by a professional geologist licensed in this Commonwealth.*

I hereby attest that, as a Professional Geologist licensed in the Commonwealth of Pennsylvania, I am familiar with, and have reviewed and/or prepared the interpretation of the geology and hydrogeology presented in the attached report entitled, *Release Investigation Report – Tank Group 04, Former Philadelphia Energy Solutions Refinery, 3144 West Passyunk Avenue, Philadelphia, Pennsylvania*, dated June 2025.

Based on the available data represented in the report, I believe that the geologic and hydrogeologic interpretations made herein are reasonable and accurate.



June 26, 2025

Christopher J. Voci, PG
Senior Principal Geologist

Date

1 Introduction

Terraphase Engineering, Inc. (Terraphase) has prepared this *Release Investigation Report* (Report), on behalf of Bellwether District Holdings, LLC (BDH), formerly known as Philadelphia Energy Solutions Refining and Marketing LLC (PESRM), to detail the results of the Site Assessment and Site Characterization activities at Tank Group 04 (the "Site"), which is located within the Former Philadelphia Energy Solutions refinery facility (the "Facility"). The Facility, which is undergoing closure activities and development, is located at 3144 West Passyunk Avenue, Philadelphia, Pennsylvania (**Figure 1**). Remediation activities are being conducted at the Facility under the Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2) by both BDH and Evergreen Resources Group, LLC (Evergreen)[1] in accordance with the Consent Order and Agreement (CO&A) among Pennsylvania Department of Environmental Protection (PADEP), Sunoco, Inc. (R&M) n/k/a Energy Transfer (R&M), LLC, and PESRM dated August 14, 2012 and the 2020 First Amendment to that Agreement (2020 Amendment). In accordance with the CO&A, Sunoco/Evergreen is responsible for addressing contamination at the Facility resulting from release(s) which occurred before September 8, 2012, i.e., "Pre-Existing Contamination", and PESRM, now known as BDH, is responsible for addressing contamination at the Facility resulting from release(s) which occurred after September 8, 2012, i.e., "Post-September 2012 Contamination."

The Site Assessment and Site Characterization activities described in this Report were performed in accordance with the applicable provisions of The Storage Tank and Spill Prevention Act (Act 32), Title 25 of the Pennsylvania Code (25 Pa. Code) Chapter 245 (Subchapter D), and Terraphase's (2021) *Aboveground Storage Tank Closure Work Plan* (Work Plan), which PADEP approved on April 23, 2021. As discussed in the Work Plan, closure of the aboveground storage tanks (AST) under Act 32 is being pursued through a group closure process, in which ASTs in the same general area (e.g., tank farm) have been demolished, removed, investigated, and evaluated at about the same time. Demolition of the tanks has been proceeding in phases from the north to the south with nine Tank Groups in all. As of May 2023, all tanks subject to closure under Act 32 as part of the Work Plan were demolished.

The data collected as part of the Site Assessment and Site Characterization activities have been evaluated in the context of other information and environmental analytical data for the Facility to determine whether contamination detected during Site Assessment and Site Characterization sampling is (1) Pre-Existing Contamination, (2) Post-September 2012 Contamination associated with a release from an AST, or (3) Post-September 2012 Contamination not associated with a release from an AST. Pre-Existing Contamination will be addressed by Evergreen under its sitewide Act 2 case. Post-September 2012 Contamination, not associated with a release from an AST, will be addressed by BDH under Act 2. Post-September 2012 Contamination associated with a release from an AST will be addressed by BDH under Act 32.

[1]Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC ("Evergreen") is managing the legacy remedial work for Sunoco (R&M), LLC. For clarity, Sunoco, Inc. n/k/a ETC Sunoco Holdings LLC, Sunoco, Inc. (R&M) f/k/a Sunoco (R&M), LLC n/k/a Energy Transfer (R&M), LLC effective 4/19/2021 and Evergreen shall be referred to collectively as "Evergreen" in this Report.

The Work Plan (Terraphase 2021) also detailed a tank category system, in which tanks are classified into one of the following three categories:

- **Category 1.** Tanks less than or equal to 21,000 gallons and have no evidence of a release to the environment.
- **Category 2.** Tanks greater than 21,000 gallons and have no evidence of a release to the environment.
- **Category 3.** Tanks that have evidence of a release to the environment identified during infrastructure removal or sampling.

Tanks were initially classified as Categories 1 or 2. Category 1 tanks were inspected visually during demolition for release(s) to the environment. Category 2 tanks were inspected visually, and a Site Assessment sampling program was initiated at each tank. If indications of a release were identified through visual observation or sampling, the tank was reassigned to Category 3. Category 3 tank areas were sampled to characterize the nature and extent of contaminants and assess the need for remedial or interim actions.

Tank Group 04 (**Figure 2**) is located within a larger area of the Facility formerly referred to as the Point Breeze Refinery South Yard (South Yard). Evergreen is currently engaged in characterization and remediation work at the Facility under the Pennsylvania One Cleanup Program under the oversight of the PADEP and the United States Environmental Protection Agency (USEPA; eFACTS PF No. 770318 [AOI 4] and 780190 [Philadelphia Refinery Sitewide]). In its associated documentation, Evergreen has identified the area of the Facility where Tank Group 04 is located as Area of Interest (AOI) 4. The 13 ASTs addressed in this Report are shown on **Figure 3** and listed in **Table 1**. Tank Group 05 (PADEP Incident #57203), which is also shown on **Figure 3**, was administratively closed on May 23, 2024. No tanks within Tank Group 04 were initially categorized as Category 1.

This Report presents the results of the Site Assessment and Site Characterization activities performed for the 13 tanks. It identifies those ASTs where potential releases to the environment were (and were not) identified based upon a comparison of the soil analytical results to the following Non-Residential (Non-Res) Statewide Health Standard (SHS) Medium-Specific Concentration (MSC) numeric values for soil:

- Non-Res MSCs for Direct Contact (DC) Exposure to Surface Soil (0-2 feet [ft])
- Non-Res MSCs for DC Exposure to Subsurface Soil (2-15 ft)
- Non-Res MSCs for Soil to Groundwater (SGW) (Used Aquifer, Total Dissolved Solids [TDS] ≤ 2,500)

Soil characterization results for 10 ASTs (i.e., PB 191, PB 826, PB 841, PB 843, PB 847, PB 881, PB 882, PB 883, PB 885, and PB 886) did not identify concentrations of regulated substances greater than these applicable SHS MSCs. As such, these 10 ASTs have “No Obvious Contamination – Sampling Results Meet Standards/Levels” and are considered to have met the closure requirements set forth in Act 32.

The remaining three ASTs (i.e., PB 840, PB 848, and PB 884) in Tank Group 04 exhibited soil concentrations of regulated substances greater than these applicable SHS MSCs. Therefore, the conclusion for these tanks is “No Obvious Contamination – Sample Results Do Not Meet Action Levels.”

Notification was made to PADEP of potential releases to the environment and Incident No. 57976 was assigned to Tank Group 04 by PADEP.

For the three ASTs where potential releases to the environment were identified, Site Characterization was completed to determine 1) the sources of contamination (per 25 Pa. Code § 245.309(a)(4)), 2) whether the identified contamination is Pre-Existing Contamination, and 3) the extent of migration of regulated substances in soil and groundwater (per 25 Pa. Code § 245.309(b)(4)). For these ASTs, the extent of soil and groundwater concentrations of regulated substances have been delineated to the following Non-Res SHS MSC numeric values:

Soil

- Non-Res MSCs for DC Exposure to Surface Soil (0-2 ft)
- Non-Res MSCs for DC Exposure to Subsurface Soil (2-15 ft)
- Non-Res MSCs for SGW for Used Aquifers (TDS ≤ 2,500)

Groundwater

- Non-Res MSCs for Groundwater Exposure for Used Aquifers (TDS ≤ 2,500)

The presence of light non-aqueous phase liquid (LNAPL) in the area has also been defined based upon measurements collected during the most recent gauging events for monitoring wells within, and in the vicinity of, Tank Group 04.

Based on the Site Assessment and Site Characterization data collected by BDH and data collected by Evergreen near Tank Group 04, the contamination identified in the area of Tank Group 04 represents Pre-Existing Contamination. No evidence of Post-September 2012 Contamination has been identified during the Site Assessment and Site Characterization sampling.

As such, the contamination will be addressed by Evergreen under their existing Act 2 Sites (eFACTS PF No. 770318 [AOI 4] and 780190 [Philadelphia Refinery Sitewide]). **Appendix A** provides a letter from Evergreen documenting their agreement.

As discussed in this Report, sufficient physical data has been collected to:

- Characterize the sources of contamination identified in the area and the extent of regulated substances in soil and groundwater associated with releases to the environment from ASTs;
- Allow for a selection of a Standard for attainment; and
- Determine the need for remedial action and select a remedial alternative.

Because the contamination identified in the area represents Pre-Existing Contamination, the contamination will be addressed by Evergreen under Act 2, and BDH will not be issuing a Remedial Action Plan (RAP) per 25 Pa. Code § 245.311. One Act 2 release site, which involves contamination not related to the ASTs, the “Post-September 2012 LNAPL South of Former 870 Unit”, is located immediately to the north of Tank Group 04 and will be evaluated by BDH. A Notice of Intent to Remediate (NIR) for this specific release was submitted to PADEP on April 28, 2025 and on May 9, 2025 the PADEP assigned eFacts PF No. 883479.

Section 2 includes a description of the Site, operational/usage history of the ASTs, and information regarding site topography, geology, hydrogeology, and surface water. This section also includes a summary of known past releases to the environment in the area. **Appendix B** provides the Aboveground Storage Tank System Closure Report forms (2630-FM-BECB0514) for each of the ASTs.

Section 3 discusses the tank infrastructure and removal activities.

Section 4 discusses the results of the Site Assessment and Site Characterization. It documents how adequate characterization has been performed to determine the sources of contamination, the extent of migration of regulated substances in soil and groundwater and provides the ecological screening evaluation. Finally, this section explains the lines of evidence considered in evaluating whether contamination identified in the area is Pre-Existing Contamination or Post-September 2012 Contamination.

Section 5 provides why a specific Standard for attainment has not been identified.

Section 6 provides the conceptual site model which discusses the current and reasonably anticipated future land and groundwater use at and in the vicinity of the Site, provides the scenarios for potential human exposure (i.e., receptors, exposure media, exposure routes), describes the review for the potential presence of threatened and endangered species and/or special concern species, describes the fate and transport of contaminants, and presents the institutional and engineering controls that may be utilized in the future to manage vapor intrusion exposure.

Section 7 provides a summary of this Report and the conclusions of the Site Assessment/Site Characterization for this Tank Group.

Section 8 presents a listing of the documents referenced in this Report.

2 Background

The Facility, a former 1,300-acre refinery, is currently being redeveloped. The Site[2] is 70.6 acres in size and is located within the former South Yard, an area that Evergreen has referred to as AOI 4 in their One Cleanup Program documents. The Site is located south of Hartranft Street and north of Penrose Avenue, between South 26th Street and Schuylkill Avenue. Prior to demolition, Tank Group 04 consisted of one area containing tanks located in the southern portion of the South Yard. The area consisted of large piping structures, parking lots, a pump house, and plant access roadways. Except for the asphalt roadways and parking areas that cut through the portions of Tank Group 04, and the tank foundations themselves, the area was not covered by hardscape.

The 13 ASTs addressed in this Report are listed in **Table 1**. Sixteen other ASTs (i.e., PB 185, PB 186, PB 187, PB 188, PB 189, PB 250, PB 251, PB 252, PB 254, PB 842, PB 844, PB 845, PB 846, PB 849, PB 850, and PB 880) were previously closed; as such, are not subject to this closure effort. **Figure 3** provides a layout of Tank Group 04.

2.1 Operational History/Usage of the Tanks

The Facility operated as a petroleum refinery between 1860 and 2019 and ceased operations in 2019. The demolition and decommissioning of the subject ASTs began in May 2021. Prior to demolition, the primary products held within these tanks were: crude (PB 826, PB 840, PB 841, PB 843, PB 847, PB 881, PB 882, PB 883, PB 884, PB 885, and PB 886), recovered oil (PB 191), and light cycle oil (PB 848). Additional details regarding the size, contents, and construction of the tanks are provided in **Table 1**.

2.2 Topography

Topography at the Site is generally flat except for containment berms constructed around the tank areas to provide containment in the event of a release.[3] Regional topography slopes gently to the west towards the Schuylkill River, the nearest water body to the Site. The ground surface elevation at the Site is approximately 18.4 ft above mean sea level.[4]

2.3 Regional Geology and Hydrogeology

The Facility is located within the Atlantic Coastal Plain Physiographic Province of Pennsylvania, which is defined as having a flat topography, underlain by unconsolidated sediments that thicken to the southeast. The Coastal Plain deposits are sand, gravel, silt, and clay which drape over crystalline igneous and metamorphic rocks. In general, the resulting sediments are approximately 250 ft thick along the Delaware River. These sediments unconformably overlie older, very complexly deformed rocks of the

[2] Tank Group 04 consists of a tank farm referred to by the Facility as the No. 4 Tank Farm.

[3] The Site was graded as part of redevelopment; therefore, the berms are no longer present at the Site as of the date of this report.

[4] North American Vertical Datum of 1988.

Piedmont physiographic province. Anthropogenic fill overlies the quaternary-aged Coastal Plain deposits in the vicinity of the Facility. The fill material was placed in the reclamation of lowlands along the banks of the tidal Delaware and Schuylkill Rivers during industrialization.

Native sediments beneath the fill consist of gray, muddy deposits with occasional sand, gravel, and organic-rich lenses. These sediments were deposited in floodplain, channel, and marsh environments through the Holocene Epoch. The most recent deposits are poorly consolidated and below the water table, as a result of their relatively young geologic age and position along the Schuylkill River (tributaries and creeks). Below the Holocene deposits is Pleistocene glacial outwash, commonly referred to as the "Trenton Gravel" along the Delaware River valley. Cretaceous-age sand and clay units making up the Potomac-Raritan-Magothy aquifer system underly the Pleistocene deposits.

The sedimentary record near the property consists of a complex series of water-bearing sand units which can comprise one or more hydrostatic units. Previous investigations conducted at the Facility have identified two saturated zones, including an unconfined shallow groundwater unit (occurring within the Holocene and Trenton Gravel deposits) and a deep groundwater unit known as the Farrington Sand, which is part of the Potomac-Raritan-Magothy aquifer system. The deeper groundwater unit is separated by a clay unit; as such, the deeper groundwater has been classified as a semi-confined aquifer.

Appendix C provides select figures from the *Remedial Investigation Report Addendum Area of Interest 4* (AOI 4 Remedial Investigation Report [RIR] Addendum; Stantec 2021) for reference. This includes Figures 4-11, 4-12, and 4-13 which provide detailed cross sections of the subsurface in this area from north to south and west to east.

2.4 Local Geology and Hydrogeology

The Site Assessment and Site Characterization soil investigations primarily targeted the top 5-ft, with certain Site Characterization investigation borings advanced to depths to 30 ft below ground surface (bgs) to vertically characterize the extent of constituents of concern (COC) in soil. Monitoring wells were installed to depths of up to 30 ft bgs during the Site Characterization. Anthropogenic fill was encountered in each of the soil borings at thicknesses up to 11 ft. The native soil beneath the fill layer generally consists of brown to brownish red gravelly sand, clay, and silt. In accordance with 25 Pa. Code § 245.310(a)(14), boring and well construction logs for soil borings and monitoring wells installed by BDH during Site Assessment and Site Characterization are provided in **Appendix D**.

Groundwater in the unconfined aquifer has generally been first encountered in Tank Group 04 at depths of approximately 12 to 25 ft bgs (Stantec 2017a). During Site Characterization activities conducted by BDH, unconfined aquifer groundwater was typically encountered between approximately 10 and 24 ft bgs. Perched groundwater has also been noted to be present in the anthropogenic fill layers throughout the Facility, manifesting as mounding and irregular depressions (Stantec 2017a). The *Remedial Investigation Report, Area of Interest 4* (AOI 4 RIR; Stantec 2017a) indicates that the groundwater mounding in the area has been historically attributed to saturated fill, which supports a perched water table, and may also be the result of leaking infrastructure (i.e., fire suppression lines or sewers).

Additionally, the AOI 4 RIR Addendum (2021), describes how certain groundwater mounding may be caused by a persistent leak from a high-pressure underground water line.

Groundwater at the refinery has historically been interpreted to flow to the south toward the confluence of the Delaware and Schuylkill Rivers. However, based on Figure 5-4 of the AOI 4 RIR (Stantec 2017a; included in **Appendix C**) and Figure 2-3-29 of the *Sitewide Fate and Transport Remedial Investigation Report* (Fate and Transport RIR; Stantec 2025; included in **Appendix C**), unconfined aquifer groundwater flow within Tank Group 04 has been interpreted to be locally divided, with groundwater in the southern portion of the Tank Group flowing south, and groundwater in the central portion flowing to depressions in the northern portions of the Tank Group.

Based on gauging events performed by Terraphase on January 3, 2023 and February 8, 2023, groundwater flow in the northern portion of Tank Group 04 is to the north while groundwater flow in the southern portion of Tank Group 04 is to the south (see Section 4.2.2). In accordance with 25 Pa. Code § 245.310(a)(16), **Figure 4** provides an illustration of the interpreted groundwater flow regime in the unconfined aquifer including data collected by Evergreen. As shown, due to the influence of the natural gradient, groundwater along the eastern boundary of the Tank Group is not anticipated to flow off-Facility to the east across 26th Street. The former Penrose Avenue Remediation System is located along the southern boundary of Tank Group 04. As discussed in the AOI 4 RIR Addendum, the remediation system stopped operation on March 10, 2020 as system evaluation indicated that the area was remediated to within its limits (Stantec 2021). As discussed further in Section 6.4, in June 2022 Evergreen evaluated the nature and extent of groundwater contamination and its potential future fate and transport on a large scale (Stantec 2025). Evergreen demonstrated that the dissolved phase plumes will remain relatively stable or decrease in size and concentration over time through natural attenuation processes.

2.5 Surface Water

The nearest surface water body is the Schuylkill River which bounds the Site to the west and is approximately 1,200 feet from Tank Group 04. As described in Section 2.4 and the AOI 4 RIR (Stantec 2017a), unconfined aquifer groundwater flow in Tank Group 04 has been interpreted to be locally divided, with groundwater in the southern portion of the Tank Group flowing south, and groundwater in the central portion flowing to depressions in the northern portions of the Tank Group. Stormwater detention/retention basins were identified adjacent to the west of the Tank Group, but no wetlands were identified within the bounds of Tank Group 04. In accordance with 25 Pa. Code § 250.309 and § 250.406, as referenced by 25 Pa. Code § 245.310(a)(29), and as discussed in detail in Section 4.3.1.2, groundwater contamination has been delineated to Non-Res MSCs and the extent of LNAPL has been defined in the area of Tank Group 04. As such, groundwater contamination associated with potential release(s) from ASTs in Tank Group 04 does not impact the Schuylkill River.

2.6 Known Past Releases to the Environment

Contamination is known to be present in this area of the Facility and must be considered when interpreting Site Assessment and Site Characterization results for Tank Group 04. This section provides a discussion of past releases and potential other sources of contamination in the Tank Group 04 area.

Previous investigations performed in Tank Group 04 include the AOI 4 RIR (Stantec 2017a), *Site Characterization Report/Remedial Action Completion Report for Aboveground Storage Tanks PB 843, PB 846, PB 881, PB 847, PB 885, PB 848, PB 252, PB 844, PB 823, PB 842, and PB 253* (AOI 4 Site Characterization Report [SCR]/Remedial Action Completion Report [RACR]; Stantec 2017b), and *Aboveground Storage Tank PB-848 – Closure Confirmatory Sampling Activities Report* (SECOR 2007) prepared on behalf of Evergreen. These documents noted prior investigations relating to releases of the petroleum products in vicinity of Tank Group 04. In some cases, these releases have resulted in groundwater contamination (including the identification of LNAPL) that is present or that has migrated to within the bounds of Tank Group 04.

The AOI 4 RIR and AOI 4 SCR/RACR (Stantec 2017a, 2017b) identified nine historical releases from ASTs within Tank Group 04 (Incident Nos. 6229 [PB 843], 6227 [PB 846], 35654 [PB 881], 37051 [PB 847], 37107 [PB 885], 38093 [PB 848], 38094 [PB 252], 45998 [PB 844], and 6226 [PB 842]). The AOI 4 SCR/RACR (Stantec 2017b) was submitted and approved for these historical releases, closing the storage tank incidents and allowing groundwater to be addressed under Act 2. As discussed further in Section 4.3.2, because the contamination identified in the area represents Pre-Existing Contamination, the contamination is being addressed by Evergreen under their existing Act 2 Sites (eFACTS PF No. 770318 [AOI 4] and 780190 [Philadelphia Refinery Sitewide]). **Appendix A** provides a letter from Evergreen documenting their agreement.

In addition to the prior releases identified above, an additional release within Tank Group 04, unrelated to releases from regulated storage tank systems, was investigated by BDH under Act 2 (eFACTS PF No. 856437). The PB 881 Dike Roadway release occurred during the removal of overhead pipelines within the pipe rack located along the dike roadway west of the PB 881 tank dike. BDH submitted a *Remedial Investigation and Final Report* to PADEP on March 1, 2024 and it was approved on April 30, 2024.

In addition to the prior releases identified above, BDH is investigating one additional area (a.k.a. the "Post-September 2012 LNAPL South of Former 870 Unit") north of Tank Group 04 for the presence of post-September 2012 contamination. Neither Evergreen nor BDH have identified evidence that this contamination is related to a release from an AST. A NIR for "Post-September 2012 LNAPL South of Former 870 Unit" was submitted to PADEP on April 28, 2025 and on May 9, 2025 the PADEP assigned eFacts PF No. 883479.

Appendix E provides tables of soil and groundwater analytical results from investigations conducted prior to Site Assessment and Site Characterization sampling by BDH.

In addition to these known and suspected discrete releases, the Facility was used for petroleum storage and refining for over a century, and both localized and diffuse contamination is present throughout the Facility associated with this past industrial use and with land filling activities (i.e., historic fill[5]). It is important to consider the presence of this contamination in interpreting the Site Assessment and Site Characterization results for Tank Group 04.

[5] "Historic fill", which is defined by PADEP in their (2021a) *Management of Fill Policy*, is material, excluding material disposed in landfills, waste piles and impoundments, used to bring an area to grade prior to 1988, and consisting of a conglomeration of soil and residuals, such as ashes from the residential burning of wood and coal, incinerator ash, coal ash, slag, dredged material and construction and demolition waste.

Though the soil and groundwater contamination identified at the Site has been determined to be Pre-Existing Contamination, the fate and transport of groundwater contamination in the Tank Group 04 area was reviewed. More than 100 groundwater monitoring or recovery wells have been installed within or near Tank Group 04 as part of prior investigations performed at the Facility. Groundwater and LNAPL recovery and in-site treatment systems have been installed and operated by Evergreen in the vicinity of Tank Group 04 (i.e., S-36 Remediation System and Penrose Avenue Remediation System). These systems have been effective in reducing the extent of recoverable LNAPL and groundwater contamination in the area.

As discussed further in Section 6.4, Evergreen evaluated the nature and extent of groundwater contamination and its potential future fate and transport across the entire Facility in their Fate and Transport RIR (Stantec 2025). This RIR was approved by PADEP in April 2025 (PADEP 2025). The RIR demonstrates that the fate and transport of dissolved phase plumes will remain relatively stable or decrease in size and concentration over time through natural attenuation processes.

3 Tank Infrastructure and Removal

In accordance with the Work Plan, Northstar Contracting Group, Inc. and its subcontractors, JD2 Environmental, Inc. and AST Construction, Inc., PADEP-certified Aboveground Field Constructed Storage Tank System Removal contractors, were retained by BDH to perform tank demolition and handling, including (1) hazard recognition and abatement; (2) removal and handling of vapors, product, wastewaters, and accumulated sludges; (3) overseeing or verifying cleaning of the storage tank system; (4) dismantling the ASTs; and (5) removal of ancillary equipment and piping.

The demolition of the 13 Tank Group 04 ASTs began in May 2021 and was completed in March 2022:

- PB 881 (PADEP No. 011A)
- PB 886 (PADEP No. 012A)
- PB 191 (PADEP No. 040A)
- PB 826 (PADEP No. 049A)
- PB 840 (PADEP No. 053A)
- PB 841 (PADEP No. 054A)
- PB 847 (PADEP No. 055A)
- PB 882 (PADEP No. 056A)
- PB 883 (PADEP No. 057A)
- PB 884 (PADEP No. 058A)
- PB 885 (PADEP No. 059A)
- PB 843 (PADEP No. 086A)
- PB 848 (PADEP No. 088A)

During the removal, it was determined that all 13 tanks (i.e., PB 191, PB 826, PB 840, PB 841, PB 843, PB 847, PB 848, PB 881, PB 882, PB 883, PB 884, PB 885, and PB 886) had double bottoms. Double bottoms are forms of secondary containment located under the tanks that allow for visual inspection and potential repair to any observed leaks. BDH retained ENTACT, LLC to remove the double bottoms. Removal was completed in July 2022.

No evidence of releases to the environment were observed during the demolition of the 13 Tank Group 04 ASTs.

On behalf of BDH, JD2 Environmental, Inc. submitted to PADEP the required tank registration amendments, copies of which are provided as **Appendix F**.

In accordance with 25 Pa. Code § 245.309(a) and (b)(3), as referenced by 25 Pa. Code § 245.310(a), the Aboveground Storage Tank System Closure Report forms (2630-FM-BECB0514) were previously submitted on February 6, 2023 and are included as **Appendix B**.

Pursuant to 25 Pa. Code Section 245.310(a)(11), field personnel involved with AST closure activities described in this Report have completed work in accordance with site-specific plans which were implemented in accordance with Occupational Safety and Health Administration requirements in 29 Code of Federal Regulations 1910.120. Each consultant, contractor, subcontractor, and third-party company performing fieldwork associated with the AST closure activities was required to prepare its own site-specific health and safety plan.

4 Site Assessment and Site Characterization

This section discusses the results of the Site Assessment and Site Characterization activities performed following the identification of potential releases to the environment from the Tank Group 04 ASTs.

Section 4.1 describes the Site Assessment sampling and analysis methods that were performed by BDH. Section 4.2 discusses the subsequent Site Characterization sampling. Section 4.3 discusses the soil analytical results and documents the approach to allocate soil and groundwater contamination (including LNAPL, if applicable) to (1) Pre-Existing Contamination, (2) Post-September 2012 Contamination associated with a release from an AST, or (3) Post-September 2012 Contamination not associated with a release from an AST.

4.1 Site Assessment

Ransom Consulting, LLC and their subcontractor TPI Environmental, LLC (TPI) performed the Site Assessment soil sampling, which involved the installation of 250 soil borings and collection of 263 soil samples (which includes 13 duplicate samples). Prior to the initiation of the sampling activities, the Pennsylvania One Call System (811 Dig Safe) was contacted to identify underground utilities at the Site. In addition, a review of available information provided by facility representatives regarding the presence/absence of underground utilities was used in the selection of sampling locations. Finally, a private utility locater was retained to use geophysical and electromagnetic techniques to identify potential utilities or subsurface structures at proposed drilling locations.

As discussed in the Work Plan, when no evidence of a release to the environment was identified during tank removal, ASTs were subject to Site Assessment sampling using a grid-based approach with additional samples biased toward the locations of pipe connections or other key infrastructure. The Site Assessment sampling was conducted between July 29, 2021 and July 15, 2022.

In accordance with the approved Work Plan, soil borings were completed using direct-push (i.e., Geoprobe) drilling or hand auger methods and advanced through the top 5 ft of soil. Continuous soil cores were collected, and field screened using a photoionization detector (PID) to identify potentially impacted zones. Soil sampling intervals were selected based on the results of field screening (i.e., staining, odors, and elevated PID readings).[6] Where potentially impacted materials were not encountered, discrete samples were collected at a depth of 3.0-3.5 ft bgs. These sampling intervals are consistent with the Confirmatory Sampling Protocol detailed in PADEP's (2021c) *Closure Requirements for Aboveground Storage Tank Systems* which requires sampling "*at least one foot below underground product piping, two feet below product dispensers, remote fills or containment structures and*

[6] During the Site Assessment, PID readings were taken from every 6-inch interval to help select an appropriate interval for sampling (i.e., the interval exhibiting the highest PID reading). With the exception of the PID readings at the depths from which the soil samples were collected (which are recorded on the boring logs), the field sampling contractor neglected to record the PID readings at each depth for some borings. This deficiency was addressed during Site Characterization during the installation of monitoring wells at each AST where soil contamination was observed. During their installation PID and visual observations were taken and recorded from the surface to the depth of the well's installation.

aboveground product lines for ASTs, and three feet below the tank." Where fill was observed, samples of the fill were collected if it consisted of soil or soil-like material. Groundwater was not encountered during the installation of the soil borings.

Per 25 Pa. Code § 245.310(a)(14), **Figure 5** shows the location of the Site Assessment soil borings which were installed as part of this effort. **Appendix D** provides copies of the boring logs.

The analysis selected for each soil sample was based on the AST contents as prescribed by PADEP's Short List of Petroleum Products inventory (Table III-5 of the *Land Recycling Program Technical Guidance Manual* [PADEP 2021b]). As shown in **Table 1**, for the 13 ASTs subject to this closure effort, analytes included one or a combination of the following short lists, based on historical tank contents:

- **Short List 1.** *Leaded Gasoline, Aviation Gasoline and Jet Fuel*: benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-timethylbenzene (124TMB), 1,3,5-trimethylbenzene (135TMB), 1,2-dichloroethane (12DCA), 1,2-dibromoethane (12DBA), and lead.
- **Short List 2.** *Unleaded Gasoline*: benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether (MTBE), naphthalene, 124TMB, and 135TMB.
- **Short List 3.** *Kerosene, Fuel Oil No. 1*: benzene, toluene, ethyl benzene, cumene, MTBE, naphthalene, 124TMB, and 135TMB.
- **Short List 4.** *Diesel Fuel and Fuel Oil No. 2*: benzene, toluene, ethyl benzene, cumene, MTBE, naphthalene, 124-TMB, and 135TMB.
- **Short List 5.** *Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids*: benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene (BaA), chrysene, benzo(b)fluoranthene (BbF), benzo(a)pyrene (BaP), and benzo(g,h,i)perylene (BghiP).
- **Short List 6.** *Waste Oil:* benzene, toluene, ethyl benzene, cumene, naphthalene, pyrene, BaA, chrysene, BbF, BaP, indeno(1,2,3-cd)pyrene (indeno), BghiP, and lead.

Volatile organic compounds (VOC) were analyzed via USEPA Method 8260C. Samples for semi-volatile organic compounds (SVOC) were analyzed via Method 8270D. Samples for lead were analyzed via USEPA Method 6010D. Laboratory analytical services were provided by Alpha Analytical, Inc. (now Pace Analytical) of Westborough, Massachusetts, which is a PADEP-certified laboratory. Additionally, Alpha Analytical, Inc. subcontracted SGS North America, Inc., a PADEP-certified laboratory located in Dayton, New Jersey, for a limited set of lead analyses. Soil samples submitted for analyses were placed directly into laboratory provided glassware and stored on ice in a cooler under appropriate chain of custody protocol.

Copies of laboratory reports are included as **Appendix G**.

4.2 Site Characterization

When Site Assessment analytical results indicated a potential release in Tank Group 04 (Section 4.1), a Site Characterization plan was developed. In total, the Site Characterization plan included the

installation of three additional soil borings[7] and the collection of three additional soil samples. It also included the installation of three groundwater monitoring wells, two of which were sampled over two sampling events.[8] **Figure 6a** shows the locations of the additional soil borings installed during Site Characterization. **Figure 6b** shows the locations of the groundwater monitoring wells installed and sampled during Site Characterization. This section discusses how the Site Characterization plan was developed, the methods used during the sampling, and the evaluation of the results following characterization.

4.2.1 Site Characterization Soil Sampling

In accordance with 25 Pa. Code § 245.309(b)(4), the Site Characterization scope for soil, conducted between December 19, 2022 and January 4, 2023, included the installation of three soil borings and the collection of four soil samples. The samples were collected at deeper (i.e., various 6-inch intervals from 6 to 17.5ft bgs) soil depths than samples collected during the Site Assessment as necessary to vertically characterize the extent of COC concentrations in soil, as required by 25 Pa. Code § 245.309(c)(9). The sample collection protocols, and the sampling analyses used during the Site Characterization were consistent with those used during the Site Assessment. Sampling was completed by Terraphase and TPI in conjunction with monitoring well installation activities as discussed in Section 4.2.2.

Releases to soil from the ASTs and associated soil contamination would have been confined to the secondary containment berms. As a result, the horizontal extent of soil contamination associated with the ASTs would be limited to an extent no greater than the berms (except for where piping traverses through the berms). Where space existed between locations of identified soil contamination and the berms, horizontal step out sampling was considered to characterize soil contamination horizontally to within the containment areas.

The Site Characterization sampling methodology included visual inspection and field screening of soil during the installation of the soil borings. This allowed the field team to identify the interval with the greatest potential for contamination. If samples were collected at a depth greater than 0-0.5 ft bgs, it was either because PID readings were greater than those observed from 0-0.5 ft bgs, or PID readings indicated no evidence of VOCs, and samples were then collected from 3.0-3.5 ft bgs per PADEP (2021c). For these situations, shallow soil delineation sampling was unnecessary to determine the extent of

[7] As part of initial characterization strategies for Tank Group 04, BDH developed risk-based screening levels under the assumption BDH would attain the Site-Specific Standard for Tank Group 04. As a result, Site Characterization borings were installed based on the comparison of the Site Assessment analytical results to these risk-based screening levels and not the applicable MSCs. As a result, Site Characterization boring PB-847-15R was installed at a tank without applicable MSC exceedances. Additionally, no Site Characterization samples were collected around AST PB 884, although three locations have Site Assessment samples with benzene concentrations in soil exceeding the Non-Res MSC for SGW. However, groundwater well TG04-MW-03 was installed at this tank and identified benzene concentrations in groundwater below the applicable MSCs. Therefore, no further Site Characterization sampling to further demonstrate vertical delineation was necessary.

[8] BDH monitoring well TG04-MW-02 was not sampled during Site Characterization since groundwater did not enter the well following installation. As discussed in Section 4.2.2, existing Evergreen monitoring well S-219 was sampled instead.

concentrations greater than MSCs. Instead, the Site Characterization assumes that the concentrations observed in these subsurface samples also exist at the surface (i.e., 0-0.5 ft bgs).

Where vertical characterization was needed, Site Characterization samples were collected from the depth corresponding to the highest indication of contamination between the Site Assessment sample depth and the water table based upon field screening. No Site Characterization samples were needed for horizontal delineation. Also, in order to determine the extent of COC concentrations in soil which are greater than MSCs, prior soil analytical results from Evergreen's RI activities were also used, as needed.

Soil boring logs[9] are provided in **Appendix D**, in accordance with 25 Pa. Code § 245.309(c)(9) and 245.310(a)(14).

4.2.2 Site Characterization Groundwater Sampling

In addition to soil characterization and in accordance with 25 Pa. Code § 245.309(b)(4), groundwater monitoring wells were installed in the vicinity of tanks PB 840, PB 848, and PB 884, as depicted in **Figure 6b**. The wells were installed to further characterize the extent of contamination identified in the vicinity of the tanks, as required by 25 Pa. Code §245.309(c)(10). Specifically, monitoring wells were installed in the vicinity of these tanks to target soil-to-groundwater exceedances in addition to the objectives described below.

The locations of the monitoring wells were selected with three objectives in mind: (1) to evaluate groundwater in the vicinity of each tank with suspected release to the environment, (2) to bias monitoring well locations toward areas where higher concentrations have been detected in soil, and (3) to obtain spatial coverage to better understand the nature and extent of COC concentrations in groundwater across Tank Group 04. The data from these wells supplement the extensive groundwater analytical data used by Evergreen to assess the fate and transport of Facility-related groundwater contamination in their Fate and Transport RIR (Stantec 2025). The Fate and Transport RIR (Stantec 2025) was approved by PADEP in April 2025 (PADEP 2025). PADEP considered Stantec's 2025 Fate and Transport RIR, and the data it relied upon, to be sufficient to assess potential future risks to human and ecological receptors and inform management decisions regarding sitewide cleanup goals.

Terraphase and TPI installed the pre-pack wells using 3.75-inch direct push drill casing to 17 ft bgs (i.e., TG04-MW-02) or 20 ft bgs (i.e., TG04-MW-01 and TG04-MW-03). The monitoring wells were screened across the water table and constructed with 10-ft of 2-inch diameter Schedule 40 PVC pre-packed well screens with 0.010-inch slotted pre-packed screen. A #1 sand filter pack was installed to fill the remaining annular space around the pre-packed screen to 2 ft above the screened interval. A #00 fine

[9] During the Site Assessment, PID readings were taken from every 6-inch interval to help select an appropriate interval for sampling (i.e., the interval exhibiting the highest PID reading). With the exception of the PID readings at the depths from which the soil samples were collected (which are recorded on the boring logs), the field sampling contractor neglected to record the PID readings at each depth for some borings. This deficiency was addressed during Site Characterization during the installation of monitoring wells at each AST where soil contamination was observed. During their installation, PID and visual observations were taken and recorded from the surface to the depth of the well's installation.

sand seal was placed above the filter pack and the remaining annular space was filled with hydrated bentonite chips. Monitoring well construction logs[10] are provided in **Appendix D**.

The monitoring wells were installed and developed between December 20, 2022, and January 4, 2023. Well development was conducted by over pumping to remove multiple well volumes with a submersible pump. Well development continued until the developed water was visibly clear and free of sediment. Water produced by development of all wells was containerized and treated at the on-site wastewater treatment plant.

During installation of monitoring well TG04-MW-02, a layer consistent with the upper clay unit was encountered. Drilling was stopped to avoid penetration of the upper clay unit. Monitoring well TG04-MW-02 was installed in the overburden above the upper clay unit, and following installation, groundwater has not entered this well. Therefore, to supplement groundwater data in the vicinity of this well, Terraphase collected groundwater samples from a pre-existing unconfined aquifer monitoring well (i.e., S-219).

Prior to groundwater sample collection, Terraphase collected groundwater level and LNAPL thickness measurements from newly installed monitoring wells TG04-MW-01 through TG04-MW-03. In addition, Terraphase utilized access to certain pre-existing monitoring wells located in the Tank Group for gauging purposes (i.e., S-102, S-121, S-122, S-216, S-218, S-219, S-281, S-365, S-371, S-381, and S-415). Gauging was performed using an electronic oil/water interface probe. The results of the gauging are provided in **Tables 2a** and **2b**. LNAPL was not encountered in monitoring wells TG04-MW-01 through TG04-MW-03. Measurable LNAPL was identified in Evergreen monitoring wells S-281 (i.e., 0.61 ft) and S-365 (i.e., 0.02 ft) during the first gauging event on January 3, 2023. Measurable LNAPL was identified in S-365 (i.e., 0.03 ft) again during the second gauging event on February 8, 2023. To characterize unconfined groundwater conditions in proximity to Tank Group 04's AST, groundwater samples were collected from the two developed BDH wells (i.e., TG04-MW-01 and TG04-MW-03) and Evergreen well S-219.

All permanent monitoring wells were purged and sampled following established low flow protocols outlined in the PADEP Groundwater Monitoring Guidance (Appendix A of the *Land Recycling Program Technical Guidance Manual* [PADEP 2021b]). An initial round of sampling was conducted 2 weeks following well development of TG04-MW-03 on January 4, 2023 and 48 hours after development of TG04-MW-01 on January 6, 2023. S-219 was also sampled on January 6, 2023. A second sampling event was conducted approximately 30 days later on February 9, 2023. The wells were purged using a stainless-steel positive displacement submersible pump. Purging continued until groundwater indicator parameters (i.e., water temperature, pH, conductivity, turbidity, and oxygen reduction potential) had stabilized as measured using a properly calibrated Horiba U-52 water quality meter equipped with a flow-through cell (**Appendix D**).

Each groundwater sample was analyzed for PADEP Short List 1-6 parameters. Following sample collection, the bottles were packaged in coolers with bagged ice. A custody record for each sample was

[10] As noted in Sections 4.1 and 4.2.1, during the Site Assessment soil sampling, the field sampling contractor neglected to record the PID readings at each depth. This deficiency was addressed during Site Characterization during the installation of monitoring wells at each AST where soil contamination was observed. During their installation, PID and visual observations were taken and recorded from the surface to the depth of the well's installation.

documented using a chain of custody form, which accompanied the sample containers during sample collection at the Site, transport to the lab, and analysis.

4.3 Analytical Results

Soil analytical results were compared to the following Non-Res SHS MSC numeric values to identify potential releases to the environment and determine if releases of regulated substances from the ASTs, and their associated piping, could have resulted in this contamination (per 25 Pa. Code § 245.309(a)(4)):

- Non-Res MSCs for DC Exposure to Surface Soil (0-2 ft)[11]
- Non-Res MSCs for DC Exposure to Subsurface Soil (2-15 ft)
- Non-Res MSCs for SGW for Used Aquifers (TDS ≤ 2,500)

Where the soil data suggest potential releases of regulated substances from the ASTs, soil and groundwater concentrations were compared to the following Non-Res SHS MSC numeric values to determine the extent of migration of regulated substances in soil and groundwater (per 25 Pa. Code § 245.309(b)(4)):

<u>Soil</u>

- Non-Res MSCs for DC Exposure to Surface Soil (0-2 ft)
- Non-Res MSCs for DC Exposure to Subsurface Soil (2-15 ft)
- Non-Res MSCs for SGW for Used Aquifers (TDS ≤ 2,500)

<u>Groundwater</u>

- Non-Res MSCs for Groundwater Exposure for Used Aquifers (TDS ≤ 2,500)

As discussed further in Section 6.1, soil and groundwater analytical results were not compared to PADEP's Vapor Intrusion Screening Levels as part of this evaluation since there is currently no vapor intrusion exposure in the area (i.e., vapor intrusion pathway is incomplete). Future buildings at the Facility will be subject to vapor intrusion investigation and evaluation to determine if conditions could pose a potential unacceptable risk to future occupants. Similarly, as discussed further in Section 6.1, the comparison to Non-Res numeric values is appropriate since the future land use in the area of Tank Group 04 is commercial/industrial.

Based on the Site Assessment analytical results from Tank Group 04 ASTs, PADEP was notified via telephone on August 10, 2021, pursuant with 25 Pa. Code § 245.304(c)(1) and 25 Pa. Code § 245.305,

[11] As described in Section 4.2.1, soil sampling intervals were based on the results of field screening (i.e., staining, odors, and elevated PID readings). Where potentially impacted materials were not encountered, discrete samples were collected from native soil at a depth of 3.0-3.5 ft bgs, in accordance with PADEP's (2021c) *Closure Requirements for Aboveground Storage Tank Systems*. Since only subsurface (>2 ft bgs) soil samples were collected from some locations during the Site Assessment, the comparison of the resulting concentrations to MSCs conservatively disregard the surface/subsurface soil designation reflected in the Non-Res Soil DC MSCs (i.e., results were compared to the Non-Res DC MSC for surface soil). This approach was used to evaluate potential releases from tanks within Tank Group 04.

that concentrations greater than applicable MSCs were identified at ASTs PB 840, PB 848, and PB 884. PADEP assigned Incident No. 57976 to this initial notification for tanks in Tank Group 04. A copy of the notification document is included in **Appendix H**.

The following sections provide a more detailed discussion of the results of sampling conducted in proximity to each of the three ASTs where the Site Assessment soil analytical results indicated potential releases to the environment.

4.3.1 Defining the Extent of Contamination

Based on the Site Assessment analytical results, Site Characterization analytical results, and Evergreen's pre-existing data set, the extent of concentrations exceeding MSCs in soil and groundwater in the area of Tank Group 04 have been defined. Groundwater impacts are shown to extend laterally beyond the Tank Group 04 boundary. The Site Assessment and Site Characterization soil and groundwater results are tabulated and summarized in **Appendix I**.

4.3.1.1 Soil

As shown in **Table 3**, the following constituents were detected in soil samples from Tank Group 04 at concentrations greater than applicable MSCs:

- Non-Res MSCs for DC Exposure to Surface Soil: lead
- Non-Res MSCs for DC Exposure to Subsurface Soil: none
- Non-Res MSCs for SGW for Used Aquifers (TDS ≤ 2,500) MSC: benzene and lead

Figures 7a and **7b** present the horizontal extent of COCs in surface and subsurface soil, respectively, at concentrations greater than applicable Non-Res SHS MSCs.

4.3.1.2 Groundwater

As shown in **Table 4**, in accordance with 25 Pa. Code § 245.309(c)(10)(iv), benzene was detected in groundwater samples collected from monitoring wells located in Tank Group 04 at concentrations greater than the Non-Res MSCs for Groundwater Exposure (Used Aquifer). **Figures 8a** and **8b** present the horizontal extent of COCs in groundwater in the area of Tank Group 04[12] and more broadly across the Facility, respectively, at concentrations greater than the applicable Non-Res SHS MSCs.

4.3.1.3 LNAPL

As depicted on **Figure 9,** the horizontal extent of LNAPL has been delineated in the vicinity of Tank Group 04 based on the most recent BDH or Evergreen gauging data collected from new and previously

[12] The maximum concentration from the two most recent groundwater sampling events at each location with sample dates ranging from September 8, 2012 to November 15, 2023 were considered when defining the extent of groundwater contamination.

existing wells.[13] As shown on **Figure 9**, four distinct LNAPL plumes have been identified within Tank Group 04. The current aerial extent of each LNAPL plume has been defined.

4.3.2 Contamination Allocation

Several lines of evidence have been used to determine if the contamination identified within Tank Group 04, as noted in Sections 4.3.1.1 (Soil), 4.3.1.2 (Groundwater), and 4.3.1.3 (LNAPL), is indicative of (1) Pre-Existing Contamination, (2) Post-September 2012 contamination that is likely from AST releases, or (3) Post-September 2012 Contamination related to release(s) from sources other than ASTs. This evaluation included consideration for (1) whether the constituents exceeding MSC are consistent with the product(s) stored in the tank, (2) whether the spatial distribution suggests the source of the contamination is near an AST, (3) whether the magnitude of the exceedances is consistent with levels observed from other sources in Evergreen's AOI, (4) whether the spatial distribution is consistent with other sources in the area or if there are outliers, (5) whether the data are consistent with previously characterized contamination known to have existed in the area due to releases prior to September 8, 2012, and (6) where there are indicator chemicals present in soil, groundwater, or LNAPL (e.g., gasoline additives) which were not used or stored after September 8, 2012.

In order to explore these lines of evidence, all the soil and groundwater sampling and analytical data available within the Tank Group 04 area were considered. This includes data generated by Evergreen during their previous investigation (i.e., RIR), by BDH during sampling performed for AST Closure purposes, as well as for the investigation of release(s) in the area unrelated to ASTs. For illustration of these data sets, the following supplemental figures were developed:

- **Figures 10a** through **10c** present the available soil analytical results from samples collected in proximity to each AST with exceedances of the applicable MSCs and compare these concentrations to applicable SHS MSCs. Databoxes summaries are provided for each soil boring to allow for a detailed review of the soil characterization results in and around each AST. These figures support the identification of COC concentrations indicative of Pre-Existing Contamination (e.g., MTBE, 12DBA, 12DCA, lead) and whether they are spatially correlated with other COCs which would not be exclusive to older release(s) to the environment.
- **Figures 11a** and **11b** present a generalized illustration of the spatial distribution of the two constituents greater than the applicable MSCs in soil samples collected from the Tank Group 04 area by BDH and Evergreen: benzene and lead.
- **Figure 12** presents the groundwater analytical results for those wells specifically installed and/or sampled by BDH during Site Characterization. Databox summaries are provided for each well and allow for a review of the groundwater characterization results from each sampling event. The concentrations are compared to applicable SHS MSCs. Finally, the figure also illustrates the current estimated extent of LNAPL and the estimated extent of LNAPL as documented by Evergreen in the AOI 4 RIR (Stantec 2017a).

[13] The current estimated extent of LNAPL is based upon the most recent gauging event at each location, which ranged from June 3, 2019 to April 16, 2024.

Lead in soil and groundwater at the Site is related to either historic fill or releases of gasoline containing tetraethyl lead. Tetraethyl lead was phased out of use in 1996 and historic fill would have been placed prior to September 2012. Accordingly, the presence of lead in soil and groundwater (including in LNAPL if applicable) is representative of Pre-Existing Contamination.

4.3.2.1 PB 840 Area

PB 840 was formerly used to hold crude. Analytical results for soil samples collected near this AST are depicted on **Figure 10a**. As shown, there were no soil analytical results in the PB 840 area from the Evergreen data set, so the Site Assessment and Site Characterization data provides new information about the distribution of constituent concentrations in soil.

At PB 840, one constituent (i.e., benzene) was detected at concentrations in soil above the applicable MSCs at 1 out of 17 samples (i.e., PB-840-09-SS01) collected by BDH. As shown on **Figure 11a**, benzene concentrations near PB 840 are generally low and consistent with the range of benzene concentrations characterized across AOI 4 by Evergreen. Given the low exceedance rate, the range and spatial distribution of benzene concentrations, and the lack of evidence of a Post-September 2012 release(s) associated with PB 840, the presence of benzene in soil near PB 840 is Pre-Existing Contamination.

As shown on **Figure 12**, one constituent (i.e., benzene) was detected at concentrations above the applicable MSCs in groundwater at TG04-MW-01. Soil sampling was completed in the co-located boring PB-840-09. Soil analytical results from Site Assessment sampling indicated concentrations of benzene above the applicable SGW MSC from 4.5-5 ft. The boring was returned to during Site Characterization and sampled at a deeper interval of 10-10.5 ft. At this depth, benzene was not detected at concentrations greater than the applicable MSCs. The soil analytical results demonstrate that benzene has not reached the water table in soil at concentrations greater than the SGW MSCs, and therefore, the groundwater contamination identified in TG04-MW01 is not related to the tank. Since there is no specific evidence of a Post-September 2012 associated with this tank and because benzene is known to be present in groundwater in this area through Evergreen's Act 2 work, the presence of benzene in groundwater is concluded to be Pre-Existing Contamination.

The soil and groundwater contamination identified in proximity to this AST is Pre-Existing Contamination.

4.3.2.2 PB 848 Area

PB 848 was formerly used to hold light cycle oil. Analytical results for soil samples collected near this AST are depicted on **Figure 10b**. As shown, there were limited soil analytical results in the PB 848 area from the Evergreen data set. The Site Assessment and Site Characterization provides a more detailed understanding of the distribution of constituent concentrations in soil.

At PB 848, two constituents (i.e., benzene and lead) were detected at concentrations in soil above the applicable MSCs in 3 out of 20 samples and 5 out of 20 samples collected by BDH, respectively. As discussed, in Section 4.3.2, the presence of lead in soil is Pre-Existing Contamination. Additionally, light cycle oil is a distillate-range product derived from the catalytic cracking of heavy gas oils. It is typically lighter than heavy fuel oil but heavier than gasoline or kerosene. Common uses include blending into

diesel fuels, use as a hydrocracking feedstock for jet or low-sulfur diesel production, and fuel oil blending. Light cycle oil is the byproduct of refining heavy gas oils in processes where lead is neither used nor added. Therefore, the presence of lead in soil is not the result of a release from PB 848.

As discussed in Section 2.6, historical closure assessment soil sampling was performed at this tank in August 2006 and May 2007 around the perimeter of the tank, under the tank, and along associated tank piping (SECOR 2007). Benzene was identified in soil at concentrations above the applicable MSCs in these 2006/2007 soil samples, specifically at the western edge of the tank. As shown on **Figure 10b**, benzene was detected at concentrations greater than the applicable MSCs at three BDH locations (i.e., PB-848-04, PB-848-11, and PB-848-15) located in the area southwest of the tank just south of the previously identified benzene concentrations in 2006/2007, which suggests the elevated benzene concentrations are associated with the contamination found during the 2006/2007 investigation. As shown on **Figure 11a**, the concentrations of benzene detected during Site Assessment and Site Characterization sampling near PB 848 are also generally consistent with the range of concentrations characterized across AOI 4 by Evergreen. Accordingly, based on the range and spatial distribution of concentrations and the known Pre-Existing Contamination in the area, the presence of benzene in soil near PB 848 is Pre-Existing Contamination.

As discussed in Section 4.2.2, BDH installed monitoring well TG04-MW-02; however, following installation, groundwater did not enter the well. A groundwater sample was collected from pre-existing Evergreen monitoring well S-219 to supplement groundwater data in the vicinity of this well. As shown on **Figure 12**, no constituents were detected at concentrations above the applicable MSCs in groundwater at S-219. However, the sampling performed by Evergreen provides information about the nature and extent of contamination in groundwater in this area. Specifically, one constituent (i.e., benzene) was detected at concentrations above the applicable MSCs in groundwater at S-218,[14] which is located immediately upgradient of PB 848. Since there is no specific evidence of a Post-September 2012 release near this tank and because benzene is known to be present in groundwater in this area through Evergreen's Act 2 work, the presence of benzene in groundwater is concluded to be Pre-Existing Contamination.

The soil and groundwater contamination identified in proximity to this AST is Pre-Existing Contamination.

4.3.2.3 PB 884 Area

PB 884 was formerly used to hold crude. Analytical results for soil samples collected near this AST are depicted on **Figure 10c**. As shown, there were limited soil analytical results in the PB 884 area from the Evergreen data set. The Site Assessment provides a more detailed understanding of the distribution of constituent concentrations in soil.

At PB 884, one constituent (i.e., benzene) was detected at concentrations in soil above the applicable MSCs at 3 out of 30 samples (i.e., PB-884-09-SS01, PB-884-15-SS01, and PB-884-25-SS01) collected by BDH. As shown on **Figure 11a**, the concentrations of benzene detected during Site Assessment sampling

[14] Based on concentrations from the two most recent groundwater sampling events post-September 8, 2012.

near PB 884 are generally low and consistent with the range of benzene concentrations characterized across AOI 4 by Evergreen. Given the low exceedance rate, the range and spatial distribution of benzene concentrations, and the lack of evidence of a Post-September 2012 release(s) associated with PB 884, the presence of benzene in soil near PB 884 is Pre-Existing Contamination.

As shown on **Figure 12**, no constituents were detected at concentrations above the applicable MSCs in groundwater at TG04-MW-03.

The soil contamination identified in proximity to this AST is Pre-Existing Contamination.

4.3.3 Allocation Summary

The data collected as part of the Site Assessment and Site Characterization activities have been evaluated in the context of other information and environmental analytical data for the Facility to determine whether contamination detected during Site Assessment and Site Characterization sampling is (1) Pre-Existing Contamination, (2) Post-September 2012 Contamination associated with a release from an AST, or (3) Post-September 2012 Contamination not associated with a release from an AST. As discussed in Section 4.3.2, Site Assessment and Site Characterization sampling has identified Pre-Existing Contamination. Site Assessment and Site Characterization sampling has not identified Post-September 2012 Contamination associated with releases from ASTs. Accordingly, the Pre-Existing contamination identified by the Site Assessment and Site Characterization sampling will be addressed by Evergreen under their existing Act 2 Sites (eFACTS PF No. 770318 [AOI 4] and 780190 [Philadelphia Refinery Sitewide]) (Pre-Existing Contamination). Because none of the contamination in Tank Group 04 was determined to be Post-September 2012, BDH will not be issuing a RAP per 25 Pa. Code § 245.311. One Act 2 release site, the “Post-September 2012 LNAPL South of Former 870 Unit”, is located immediately to the north of Tank Group 04 and will be evaluated by BDH. This release is unrelated to the ASTs.

4.4 Ecological Screening Evaluation

Though the contamination identified in Tank Group 04 has been determined to be Pre-Existing Contamination, in accordance with 25 Pa. Code § 245.310(a)(28), an ecological screening evaluation was performed and conducted at the Site. The following describes the ecological screening evaluation that was performed for the Site. This evaluation was conducted in accordance with Section II.B.5 of the *Land Recycling Program Technical Guidance Manual* (PADEP 2021b). The regulatory framework for conducting an ecological screening evaluation under the SHS is outlined in Section II.B.2(e) and summarized in the Ecological Screening Flow Chart provided in Figure II-16 of the *Land Recycling Program Technical Guidance Manual* (PADEP 2021b). The key elements of the screening procedure are comprised of nine steps.

The initial screening phase of the process consists of Step 1, as follows:

- Step 1: Presence of Light Petroleum Product Constituents

As indicated on Figure II-16 of the L*and Recycling Program Technical Guidance Manual* (PADEP 2021b), after completion of the initial screen (Step 1), the remediator may be able to determine that no further ecological screening is required.

Step 1: Presence of Light Petroleum Product Constituents

The first step in the ecological screening process is to determine whether the constituents present in on-Site surface soil (soil at a depth of up to 2 ft) or sediment are related only to light petroleum products (i.e., gasoline, jet fuel A, kerosene, #2 fuel oil/diesel fuel), which have relatively low polycyclic aromatic hydrocarbon content (American Society for Testing and Material [ASTM] International E1739-95). If light petroleum product constituents (including benzene, toluene, ethyl benzene, and xylenes [total]) are the only constituents detected on-Site, then the screening process moves to Step 9 (Final Report: No Further Ecological Evaluation Required). As discussed in Section 4.3.1.1, light petroleum product constituents are present in the post-excavation soil samples as well as lead. However, since lead is the only non-light petroleum product present in soil at concentrations greater than the applicable MSCs and BDH is not responsible for lead since it is Pre-Existing Contamination, no further ecological evaluation is required.

4.5 Data Quality Assurance, Quality Control, and Usability

While the Site Assessment and Characterization analytical data were not subject to formal data validation, elements were included to help assess data quality and usability of the results to support the project objectives. This included the collection of quality assurance/quality control samples, general quality control checks on the field and laboratory information, and an assessment of the impact of elevated reporting limits (RL) due to sample-specific interferences.

4.5.1 Quality Assurance/Quality Control Samples

During the Site Assessment/Characterization field activities, one trip blank sample per sample cooler and approximately one field blank per 10 samples was submitted to the analytical laboratory to evaluate potential cross-contamination during sample container shipment and storage. Results of the quality assurance and quality control sample analyses are provided in **Appendix I**. COCs were not detected in blank samples at concentrations greater than the laboratory RLs. As such, there is no concern associated with laboratory cross-contamination and/or sampling-related cross-contamination for samples collected from the Site.

Approximately one field duplicate sample per every 20 soil samples was also collected to evaluate the variance in the sampling/analysis. Relative percent differences (RPD) for duplicate pairs were calculated and ranged from 0 to 199 percent with an average of 56 percent. Overall, RPDs <50 percent generally represent the typical level of variability. Reasons for a higher RPD can include sample heterogeneity or samples with high concentrations. Given that the predominant soil type sampled is anthropogenic fill some additional variability is expected and reasonable.

Approximately one field duplicate sample per every 20 groundwater samples was also collected to evaluate the variance in the sampling/analysis. RPDs for duplicate pairs were calculated and ranged from 0 to 199 percent with an average of eight percent. Overall, RPDs <50 percent generally represent the typical level of variability.

4.5.2 General Quality Control Checks

General quality control checks were also performed on the field information and laboratory analytical deliverables. This included checking and reviewing laboratory logins and completed chains of custody, confirming that the requested analyte lists were reported, and that the sample nomenclature conformed to the proposed sampling scope of work. In some cases, multiple analyses were reported by the laboratory and a general review of elements such as surrogate recoveries, qualifiers, analytical limits, and laboratory narratives were performed to identify which results would be used for a given sample. A log of these general checks is provided in **Appendix I** along with the methodology used to select between multiple results when provided by the analytical laboratory.

4.5.3 Reporting Limits

For non-detect COCs, RLs were evaluated against the applicable MSCs. The maximum RLs for one COC was above the MSCs, as summarized in the table below.

Reporting Limits Greater than MSCs

COC	Maximum Analytical Limits (mg/kg)	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC (mg/kg)	Frequency of RL > than MSCs
12DBA	0.0057	0.005	25 of 263 samples

Based on prior discussions with Alpha Analytical, Inc. (now Pace Analytical) and other PADEP-certified laboratories, USEPA Method 8260 provides laboratories with the ability to run the analysis via high-level or low-level vials, which is dependent on sample-specific conditions (i.e., interferences from non-target analytes). Samples may need to be diluted to be run via the high-level vial if an abundance of non-target analytes are present in the sample. In these situations, running via the low-level vial is not possible due to the non-target analyte interferences. This dilution results in higher method detection limits and RLs for samples. Due to sample-specific conditions, resampling and reanalyzing soil to assess whether these compounds are present in soil is not a viable solution.

An additional evaluation was completed to determine whether 12DBA may be present or not in soil in the area at concentrations below the respective RLs and if present, if it is due to a potential release(s) from the ASTs. The maximum RLs for 12DBA exceeded the applicable MSCs, but the detection rate was relatively low (i.e., 9.5 percent). Some locations with elevated RLs coincide or are near locations with concentrations exceeding the applicable MSCs for other chemicals, indicating no impact on Site Characterization conclusions or associated cleanup decisions. In situations where these locations are not in the vicinity of other locations with concentrations exceeding applicable MSCs, they are delineated by other locations with concentrations below the applicable MSCs or the tank containment berms.

Even if present due to a release(s) from a tank, since 12DBA was historically used as a scavenger for lead in anti-knock gasoline mixtures[15] and up until the ban of leaded gasoline in the 1990s could have been

[15] https://www.atsdr.cdc.gov/toxprofiles/tp37.pdf

present in gasoline-related releases to the environment, these concentrations would be associated with Pre-Existing Contamination. Therefore, these RL exceedances do not impact do not impact Site Characterization or associated cleanup decisions.

5 Selection of Standards

As described in Section 4.3.2, the data collected as part of the Site Assessment and Site Characterization activities have been evaluated in the context of other information and environmental analytical data for the Facility. These sampling efforts have identified Pre-Existing Contamination. These sampling efforts have not identified Post-September 2012 Contamination. Accordingly, the contamination identified by the Site Assessment and Site Characterization sampling will be addressed under Act 2 by Evergreen (Pre-Existing Contamination).

Because Post-September 2012 Contamination has not been identified and because the contamination identified will be managed under Act 2, a specific Standard for attainment has not been identified and BDH will not be issuing a RAP per 25 Pa. Code § 245.311. One Act 2 release site, the "Post-September 2012 LNAPL South of Former 870 Unit", is located immediately to the north of Tank Group 04 and will be evaluated by BDH. This release is unrelated to the ASTs.

6 Conceptual Site Model

6.1 Land and Groundwater Use

The area encompassing Tank Group 04 is being redeveloped. Current and reasonably anticipated future land use in the area of Tank Group 04 is commercial/industrial.

Sampling and evaluation of the vapor intrusion pathway has not been conducted since there is no current vapor intrusion exposure in the area (i.e., vapor intrusion pathway is incomplete). In order to address the requirements under 25 Pa. Code § 245.309(c)(12), as referenced by 25 Pa. Code § 245.310(a) and 245.310(a)(32), BDH and Evergreen plan to establish institutional controls and, as needed, engineering controls, to ensure no unacceptable vapor intrusion exposure occurs to occupants of future buildings on the Facility.[16]

Stemming from several efforts to assess the potential for current and reasonably anticipated future use of groundwater at and in the vicinity of the Facility in accordance with 25 Pa. Code § 245.310(a)(27), Evergreen has documented no confirmed drinking water supply wells within 1-mile of the Facility. As a result, groundwater on-facility and off-Facility is not a current or reasonably anticipated future source of potable or nonpotable water.

6.2 Scenarios for Potential Human Exposure

Though the contamination identified at the Site is determined to be Pre-Existing Contamination, to satisfy the requirements for preparing a SCR specified in 25 Pa. Code § 245.309(c)(14), § 245.310(a)(23), this section identifies potentially exposed populations (receptors) and their potential exposure pathways.

6.2.1 Potential On-Site Exposures

The current on-Site receptors include construction workers who may become exposed during site redevelopment or major construction activities and to a limited extent, trespassers, since access to the Facility is controlled with fencing and site security.

Reasonably anticipated future receptors at and in the immediate vicinity of the Site could include workers who may be exposed during the performance of typical or routine commercial activities (routine workers), maintenance workers who may become exposed during maintenance activities including minor subsurface repair/utility activities, construction workers, and trespassers.

[16] Prior to their construction and occupancy, on-Facility buildings which could be occupied in the future will be subject to vapor intrusion investigation and evaluation to determine if conditions (i.e., volatilization of COCs from soil, groundwater, and/or LNAPL) could pose a potential unacceptable risk to future occupants. Vapor mitigation systems will be incorporated into the design and construction of such buildings where potentially unacceptable vapor intrusion risks are identified.

Routine workers and trespassers could be exposed to COCs through incidental ingestion and dermal contact with COCs in exposed surface soil, inhalation of COCs in vapors and particulates from exposed surface soil, and inhalation of COCs in vapors from subsurface soil. While exposure of maintenance and construction workers could include incidental ingestion and dermal contact with COCs in exposed surface and subsurface soil, inhalation of COCs in airborne particulates and vapors from exposed surface soil, and inhalation of COCs in vapors from subsurface soil.

Additionally, potential vapor intrusion exposure of routine workers, maintenance workers, construction workers, and trespassers could include exposure to COCs in vapors from both exposed surface soil and subsurface soil. However, such exposure is not currently a significant concern or anticipated to be one in the future. This is because BDH plans to address and eliminate potential unacceptable risks via establishing environmental covenants and vapor mitigation systems as needed.

6.2.2 Potential Off-Site Exposures

Potential off-Site receptors under current and future conditions may include receptors who are off-facility, or receptors who are off-site (i.e., located outside of the Tank Group), but still within other portions of the Facility. Off-Site receptors could include off-Facility residents, routine workers, construction workers, and maintenance workers. Potential exposure of off-Facility residents could include inhalation of COCs in airborne particulates and/or vapors from on-Site soil.

6.3 Species and Habitats of Concern

In accordance with 25 Pa. Code § 245.309(c)(5) and § 250.311(a), an ecological screening evaluation was performed and conducted at the Site. As discussed in Section 4.4, no further ecological evaluation is required. Additionally, as discussed in Section 2.5, stormwater detention/retention basins were identified adjacent to the west of the Tank Group, but no wetlands were identified within the bounds of Tank Group 04.

6.4 Groundwater Contamination and the Significance of Fate and Transport

Though the contamination identified at the Site is determined to be Pre-Existing Contamination, to satisfy the requirements of 25 Pa. Code §245.310(a)(23), the fate and transport of groundwater contamination in the Tank Group 04 area is discussed in this Section.

More than 100 groundwater monitoring or recovery wells have been installed within or near Tank Group 04 as part of prior investigations performed at the Facility. As discussed in the AOI 4 RIR and AOI 4 RIR Addendum (Stantec 2017a, 2021), the aerial extent of groundwater contamination in the unconfined aquifer has been the result of groundwater flow along hydraulic head gradients in the area or by historical pumping on or near the Facility. Groundwater and LNAPL recovery and in-situ remediation systems (i.e., S-36 Remediation System and Penrose Avenue Remediation System) have been installed by Evergreen in the vicinity of Tank Group 04. These systems have been effective in recovering LNAPL and in controlling the migration of groundwater contamination in the area. The S-36 Remediation System began operation in September 2004 and recovered a total of 1,025 gallons of LNAPL. The system

was taken off-line in July 2010 due to the absence of recoverable LNAPL (Stantec 2017a). The Penrose Avenue Remediation System began operation in March 2013 and consisted of 18 recovery wells. The system stopped operation in March 2020 as system evaluation indicated that the area was remediated to within its limits (Stantec 2021).

Because of the complexity associated with comingled impacts from a variety of sources and complicated hydrogeologic/groundwater flow conditions, Evergreen evaluated the nature and extent of groundwater contamination and its potential future fate and transport across the entire Facility in their Fate and Transport RIR (Stantec 2025), which was approved by PADEP in April 2025 (PADEP 2025). The fate and transport modeling supplemented the extensive groundwater analytical data which, as noted by Evergreen in their 2025 Fate and Transport RIR (Stantec 2025), PADEP considered complete and sufficient to assess risks to human and ecological receptors. The fate and transport assessment, which involved predictive 30-year simulations of dissolved phase indicator parameters[17] (i.e., benzene, MTBE, naphthalene, BaP, and lead) under the conservative assumptions (i.e., sources of contamination will remain and assuming the remediation system wells are not pumping) demonstrates that the dissolved phase plumes will remain relatively stable or decrease in size and concentration over time through natural attenuation processes.

[17] As discussed in the AOI 4 RIR (Stantec 2017a), the AOI 4 RIR Addendum (Stantec 2021), and the Sitewide Fate and Transport RIR (Stantec 2025), of the list of site-related constituents identified in groundwater, benzene and MTBE were chosen as the primary chemicals (qualitative proxies for other constituents) because of their water solubility, potential to be mobile in groundwater, and their persistence in groundwater at and near the Facility. MTBE was phased out of use in the early 2000s. As of 2005, MTBE has not been used in significant quantities as an additive to gasoline. As a result, the presence of MTBE in soil and groundwater helps to identify contamination that is associated with historical releases (e.g., pre-2005).

7 Summary and Conclusions

Terraphase has prepared this Report, on behalf of BDH, to detail the results of the Site Assessment and Site Characterization activities and to provide the supporting information demonstrating that adequate characterization has been performed for a reliable determination of the need for remedial measures based on the selected standard.

The Site Assessment and Site Characterization activities described in this Report were performed in accordance with the applicable provisions of Act 32, 25 Pa. Code Chapter 245 (Subchapter D), and Terraphase's Work Plan (2021). The 13 ASTs addressed in this Report are:

- PB 881 (PADEP No. 011A)
- PB 886 (PADEP No. 012A)
- PB 191 (PADEP No. 040A)
- PB 826 (PADEP No. 049A)
- PB 840 (PADEP No. 053A)
- PB 841 (PADEP No. 054A)
- PB 847 (PADEP No. 055A)
- PB 882 (PADEP No. 056A)
- PB 883 (PADEP No. 057A)
- PB 884 (PADEP No. 058A)
- PB 885 (PADEP No. 059A)
- PB 843 (PADEP No. 086A)
- PB 848 (PADEP No. 088A)

Based on the results of soil samples collected during the Site Assessment of Category 2 ASTs and a comparison to applicable MSCs, no evidence of a release from ten tanks (i.e., PB 191, PB 826, PB 841, PB 843, PB 847, PB 881, PB 882, PB 883, PB 885, and PB 886) was identified. These tanks remain classified as Category 2.

The remaining three tanks (i.e., PB 840, PB 848, PB 884) identified concentrations in soil above the applicable MSCs and notification of release was submitted to the PADEP under Incident No. 57976. However, as discussed in Sections 4.3.2 and 4.3.3, Site Assessment and Site Characterization sampling have identified Pre-Existing Contamination at these tanks. Accordingly, the contamination identified by the Site Assessment and Site Characterization sampling in Tank Group 04 will be addressed by Evergreen under their existing Act 2 Sites (eFACTS PF No. 770318 [AOI 4] and 780190 [Philadelphia Refinery Sitewide]) (Pre-Existing Contamination). Because none of the contamination in Tank Group 04 was determined to be Post-September 2021, BDH will not be issuing a RAP per 25 Pa. Code § 245.311. One Act 2 release site, the "Post-September 2012 LNAPL South of Former 870 Unit", is located immediately to the north of Tank Group 04 and will be evaluated by BDH. This release is unrelated to the ASTs.

8 References

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Tables

1 Aboveground Storage Tank Details
2a Monitoring Well Gauging Summary (January 2022)
2b Monitoring Well Gauging Summary (February 2023)
3 Soil Screening Summary (Site Assessment, Site Characterization)
4 Groundwater Screening Summary (Site Characterization)

Table 1
Aboveground Storage Tank Details
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Facility	State Regulation Number	Tank Number	Design Capacity (gal)	Primary Product	Proposed Analyte List[X]	Regulatory Status	Facility ID	Status Modification Date	Tank Type	Double Bottom	Diameter (ft)	Height (ft)	Remaining Liquid (gal)	GPS Survey Complete	Demo Complete	Storage Tanks Reg./Permit App Form Submitted	Release Notification	Incident No.	Int. Remedial/ Corrective Action Required
Point Breeze	011A	PB 881	8,568,000	Crude	Short List 1-5	R	51-33620	1/8/2022	EFR	Y, Removed	160	56	N/A	Y	Y	2/3/2022	N/A	N/A	N/A
Point Breeze	012A	PB 886	13,158,600	Crude	Short List 1-5	R	51-33620	8/26/2021	IFR	Y, Removed	200	56	N/A	Y	Y	9/23/2021	N/A	N/A	N/A
Point Breeze	040A	PB 191	634,200	Recovered Oil	Short List 1-6	R	51-33620	11/23/2021	EFR	Y, Removed	52	41	N/A		Y	12/16/2021	N/A	N/A	N/A
Point Breeze	049A	PB 826	8,568,000	Crude	Short List 1-5	R	51-33620	4/18/2022	EFR	Y, Removed	160	57	N/A	Y	Y	4/27/2022	N/A	N/A	N/A
Point Breeze	053A	PB 840	5,758,200	Crude	Short List 1-5	R	51-33620	3/4/2022	EFR	Y, Removed	140	50	N/A	Y	Y	3/30/2022	8/10/2022	57976	N/A
Point Breeze	054A	PB 841	5,758,200	Crude	Short List 1-5	R	51-33620	3/14/2022	EFR	Y, Removed	140	49	N/A	Y	Y	3/30/2022	N/A	N/A	N/A
Point Breeze	055A	PB 847	6,346,200	Crude	Short List 1-5	R	51-33620	2/3/2022	IFR	Y, Removed	150	49	N/A	Y	Y	2/3/2022	N/A	N/A	N/A
Point Breeze	056A	PB 882	8,421,000	Crude	Short List 1-5	R	51-33620	5/20/2021	EFR	Y, Removed	160	56	N/A	Y	Y	6/18/2021	N/A	N/A	N/A
Point Breeze	057A	PB 883	8,568,000	Crude	Short List 1-5	R	51-33620	11/24/2021	EFR	Y, Removed	160	56.5	N/A	Y	Y	12/16/2021	N/A	N/A	N/A
Point Breeze	058A	PB 884	13,158,600	Crude	Short List 1-5	R	51-33620	11/1/2021	EFR	Y, Removed	200	56	N/A	Y	Y	12/16/2021	8/10/2022	57976	N/A
Point Breeze	059A	PB 885	13,158,600	Crude	Short List 1-5	R	51-33620	9/23/2021	IFR	Y, Removed	200	56	N/A	Y	Y	9/27/2021	N/A	N/A	N/A
Point Breeze	086A	PB 843	6,346,200	Crude	Short List 1-5	R	51-33620	3/16/2022	EFR	Y, Removed	150	48	N/A	Y	Y	3/30/2022	N/A	N/A	N/A
Point Breeze	088A	PB 848	5,640,852	Light Cycle Oil	Short List 1-5	R	51-33620	1/20/2022	EFR	Y, Removed	140	50	N/A	Y	Y	2/3/2022	8/10/2022	57976	N/A

Abbreviations:
ERF -- External Floating Roof
IRF -- Internal Floating Roof
N -- No
N/A -- Not Applicable
R -- Removed
Y -- Yes

Table 2a
Monitoring Well Gauging Summary (January 2023)
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

			January 3, 2023					
Dataset	**Location ID**	**TOIC** (ft AMSL)	**Depth to Product** (ft below TOIC)	**Depth to Water** (ft below TOIC)	**LNAPL Density** (mg/L)	**Depth to Water (Corrected)** (ft below TOIC)	**Groundwater Elevation** (ft AMSL)	**Total LNAPL Thickness** (ft)
AST	TG04-MW-01	17.80	--	16.66	--	16.66	1.14	--
AST	TG04-MW-02	25.53	--	Dry	--	Dry	--	--
AST	TG04-MW-03	23.51	--	16.98	--	16.98	6.53	--
Evergreen	S-102	18.22	--	Dry	--	Dry	--	--
Evergreen	S-121	21.12	--	15.78	--	15.78	5.34	--
Evergreen	S-122	25.71	--	24.53	--	24.53	1.18	--
Evergreen	S-216	15.76	--	14.40	--	14.40	1.36	--
Evergreen	S-218	25.74	--	23.60	--	23.60	2.14	--
Evergreen	S-219	23.09	--	21.82	--	21.82	1.27	--
Evergreen	S-281	14.36	11.15	11.76	0.82	11.26	3.10	0.61
Evergreen	S-365	20.91	19.73	19.75	0.82	19.73	1.18	0.02
Evergreen	S-371	22.05	--	18.89	--	18.89	3.16	--
Evergreen	S-381	25.86	--	24.90	--	24.90	0.96	--
Evergreen	S-415	19.23	--	18.51	--	18.51	0.72	--

Notes:
Depth to water in Evergreen wells were corrected based on historical LNAPL densities associated with other Evergreen wells in the vicinity, as presented in Stantec's AOI 4 RIR.
Vertical Datum is NAVD 1988.

Table 2b
Monitoring Well Gauging Summary (February 2023)
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

			February 8, 2023					
Dataset	**Location ID**	**TOIC** (ft AMSL)	**Depth to Product** (ft below TOIC)	**Depth to Water** (ft below TOIC)	**LNAPL Density** (mg/L)	**Depth to Water (Corrected)** (ft below TOIC)	**Groundwater Elevation** (ft AMSL)	**Total LNAPL Thickness** (ft)
AST	TG04-MW-01	17.80	--	16.78	--	16.78	1.02	--
AST	TG04-MW-02	25.53	--	Dry	--	Dry	--	--
AST	TG04-MW-03	23.51	--	16.65	--	16.65	6.86	--
Evergreen	S-216	15.76	--	13.34	--	13.34	2.42	--
Evergreen	S-415	19.23	--	18.28	--	18.28	0.95	--
Evergreen	S-365	20.91	20.18	20.21	0.82	20.19	0.72	0.03
Evergreen	S-121	21.12	--	19.29	--	19.29	1.83	--
Evergreen	S-122	25.71	--	24.27	--	24.27	1.44	--
Evergreen	S-219	23.09	--	21.59	--	21.59	1.50	--
Evergreen	S-381	25.86	--	24.71	--	24.71	1.15	--
Evergreen	S-371	22.05	--	18.25	--	18.25	3.80	--

Notes:
Depth to water in Evergreen wells were corrected based on historical LNAPL densities associated with other Evergreen wells in the vicinity, as presented in Stantec's AOI 4 RIR.
Vertical Datum is NAVD 1988.

Table 3

Soil Screening Summary (Site Assessment, Site Characterization)

Bellwether District Holdings, LLC, Philadelphia, PA

Chem Group	Chemical	CASRN	Analyzed	Detected	Min Detected (mg/kg)	Mean Detected (mg/kg)	Max Detected (mg/kg)	Non-Res Direct Contact MSC for Surface Soil (0-2 ft) (mg/kg)	Ratio of Max Detect to Non-Res Direct Contact MSC for Surface Soil	Non-Res Direct Contact MSC for Subsurface Soil (2-15 ft) (mg/kg)	Ratio of Max Detect to Non-Res Direct Contact MSC for Subsurface Soil	Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC (mg/kg)	Ratio of Max Detect to Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSC
VOC	Benzene	71-43-2	267	61	0.00019	0.34	7.1	280	0.025	330	0.022	0.50	**14**
VOC	Cumene	98-82-8	267	80	0.00010	0.65	15	10000	0.0015	10000	0.0015	2500	0.0060
VOC	Ethyl Benzene	100-41-4	267	50	0.00014	2.7	66	880	0.075	1000	0.066	70	0.94
VOC	Methyl tert-butyl ether	1634-04-4	267	30	0.00026	0.0028	0.020	8500	0.0000024	9800	0.0000020	2.0	0.010
VOC	Toluene	108-88-3	263	19	0.00069	2.0	15	10000	0.0015	10000	0.0015	100	0.15
VOC	1,2,4-Trimethylbenzene	95-63-6	267	58	0.00034	5.1	92	4700	0.020	5400	0.017	300	0.31
VOC	1,3,5-Trimethylbenzene	108-67-8	267	59	0.00025	1.6	33	4700	0.0070	5400	0.0061	93	0.35
VOC	Xylenes (total)	1330-20-7	267	54	0.00090	8.3	200	7900	0.025	9100	0.022	1000	0.20
SVOC	Anthracene	120-12-7	263	29	0.00075	0.30	3.7	190000	0.000019	190000	0.000019	350	0.011
SVOC	Benzo(a)anthracene	56-55-3	263	54	0.00094	0.19	4.5	130	0.035	190000	0.000024	340	0.013
SVOC	Benzo(a)pyrene	50-32-8	263	31	0.0020	0.36	7.2	91	0.079	190000	0.000038	46	0.16
SVOC	Benzo(b)fluoranthene	205-99-2	263	42	0.00078	0.23	4.4	76	0.058	190000	0.000023	170	0.026
SVOC	Benzo(g,h,i)perylene	191-24-2	263	36	0.0020	0.21	5.2	190000	0.000027	190000	0.000027	180	0.029
SVOC	Chrysene	218-01-9	263	59	0.00066	0.22	4.4	760	0.0058	190000	0.000023	230	0.019
SVOC	Fluorene	86-73-7	263	49	0.015	0.73	14	130000	0.00011	190000	0.000074	3800	0.0037
SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	9	6	0.031	0.070	0.11	76	0.0014	190000	0.00000058	18000	0.0000061
SVOC	Naphthalene	91-20-3	267	56	0.0094	1.0	9.3	66	0.14	77	0.12	25	0.37
SVOC	Phenanthrene	85-01-8	263	74	0.00093	1.1	29	190000	0.00015	190000	0.00015	10000	0.0029
SVOC	Pyrene	129-00-0	263	71	0.0014	0.20	2.9	96000	0.000030	190000	0.000015	2200	0.0013
INORG	Lead	7439-92-1	267	266	1.0	45	3200	1000	**3.2**	190000	0.017	450	**7.1**

Notes:

Only constituents detected are shown.

The concentrations for the Xylene isomers (m/p and o) were summed before comparing to the criteria for Xylenes (total).

Ratios of concentration to the screening level greater than 1 are shaded in bold.

Chem Group - chemical group; INORG - metals; SVOC - semi-volatile organic compounds; VOC - volatile organic compounds

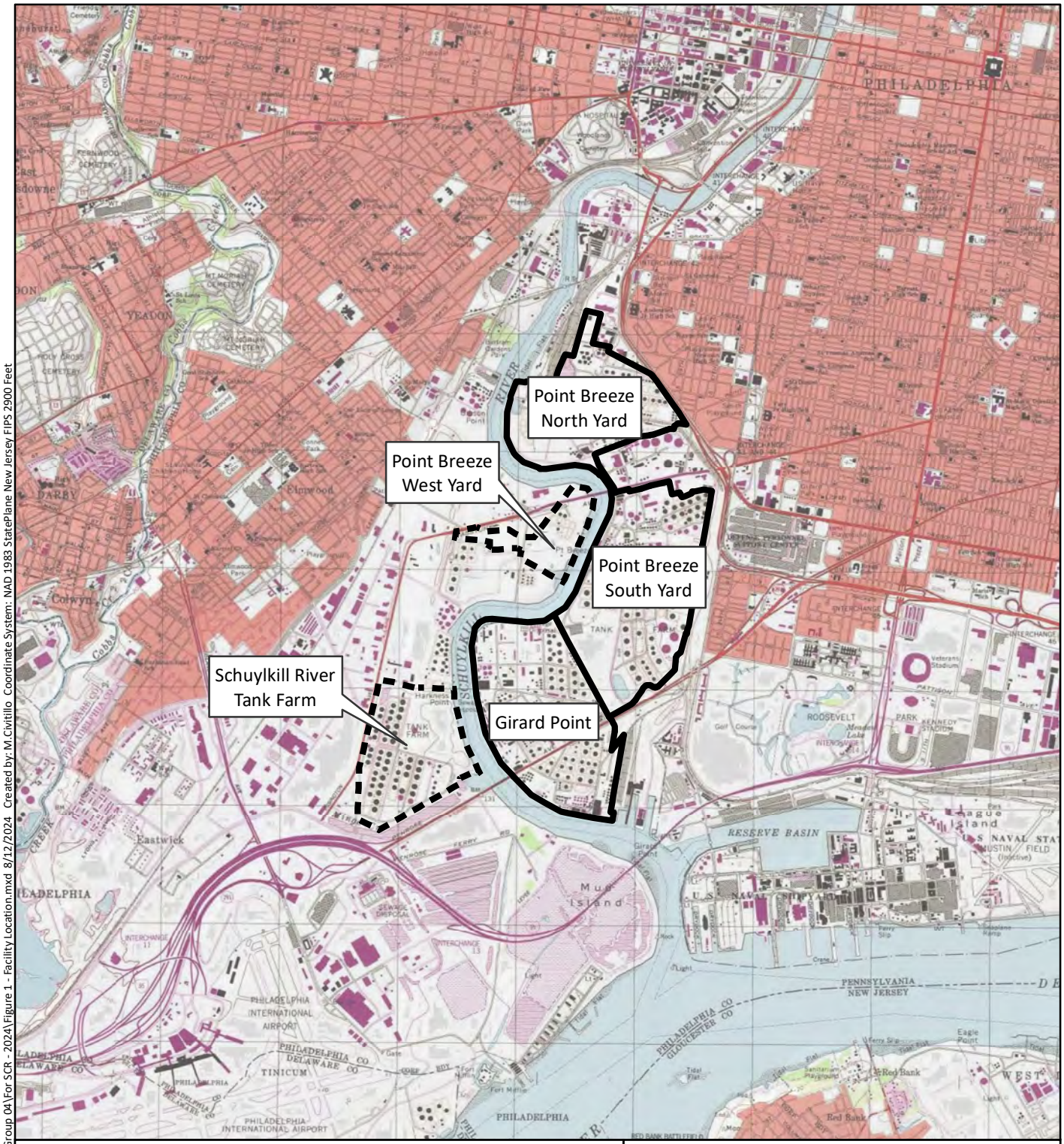
Table 4
Groundwater Screening Summary (Site Characterization)
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Wellzone	Chem Group	Chemical	CASRN	Meas Basis	Analyzed	Detected	Min Detected (mg/L)	Mean Detected (mg/L)	Max Detected (mg/L)	Non-Res GW Used Aquifer (TDS ≤ 2500) (mg/L)	Ratio of Max Detect to Non-Res GW Used Aquifer (TDS ≤ 2500)
Unconfined	VOC	Benzene	71-43-2	T	6	3	0.51	0.54	0.58	0.0050	**120**
Unconfined	VOC	Cumene	98-82-8	T	6	3	0.058	0.066	0.08	3.5	0.021
Unconfined	VOC	Ethyl Benzene	100-41-4	T	6	3	0.089	0.10	0.11	0.70	0.16
Unconfined	VOC	Toluene	108-88-3	T	6	4	0.00034	0.0077	0.011	1.0	0.011
Unconfined	VOC	1,2,4-Trimethylbenzene	95-63-6	T	6	3	0.045	0.049	0.054	0.53	0.10
Unconfined	VOC	1,3,5-Trimethylbenzene	108-67-8	T	6	3	0.011	0.012	0.013	0.53	0.025
Unconfined	VOC	Xylenes (total)	1330-20-7	T	6	3	0.19	0.19	0.20	10	0.020
Unconfined	SVOC	Anthracene	120-12-7	T	6	3	0.00011	0.00022	0.00032	0.066	0.0048
Unconfined	SVOC	Benzo(a)anthracene	56-55-3	T	6	4	0.000020	0.000043	0.00010	0.0039	0.026
Unconfined	SVOC	Fluorene	86-73-7	T	6	3	0.00050	0.00066	0.00092	1.9	0.00048
Unconfined	SVOC	Naphthalene	91-20-3	T	6	3	0.00019	0.0037	0.0094	0.10	0.094
Unconfined	SVOC	Phenanthrene	85-01-8	T	6	3	0.000040	0.00011	0.00025	1.1	0.00023
Unconfined	SVOC	Pyrene	129-00-0	T	6	3	0.000020	0.000037	0.000060	0.13	0.00046

Notes:
Only chemicals detected in the area are shown.
The concentrations for the Xylene isomers (m/p and o) were summed before comparing to the criteria for Xylenes (total).
Ratios of concentration to the screening level greater than 1 are shaded in bold.
Chem Group - chemical group; INORG - metals; SVOC - semi-volatile organic compounds; VOC - volatile organic compounds
Meas Basis - measured basis; T = total, D = dissolved

Figures

1 Facility Location
2 Site Location
3 Site Layout Map
4 Interpreted Unconfined GW Flow
5 Site Assessment Soil Sampling Locations
6a Site Characterization Soil Sampling Locations
6b Site Characterization Monitoring Well Locations
7a Surface Soil Analytical Results
7b Subsurface Soil Analytical Results
8a Extent of GW > MSC (Tank Group 04)
8b Extent of GW > MSC (Facility-Wide)
9 Current Estimated Extent of LNAPL
10a Soil Analytical Results (AST PB 840)
10b Soil Analytical Results (AST PB 884)
10c Soil Analytical Results (AST PB 848)
11a General Distribution of Benzene in Soil
11b General Distribution of Lead in Soil
12 Site Characterization GW Analytical Results



0 2,000 4,000 6,000 Feet

1 inch = 4,000 feet

N

Legend

Subject to AST Closure Plan

Not Subject to AST Closure Plan

Base Map: USGS Philadelphia 1994 7.5 Minute Quadrangle.

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CLIENT: Bellwether District Holdings, LLC

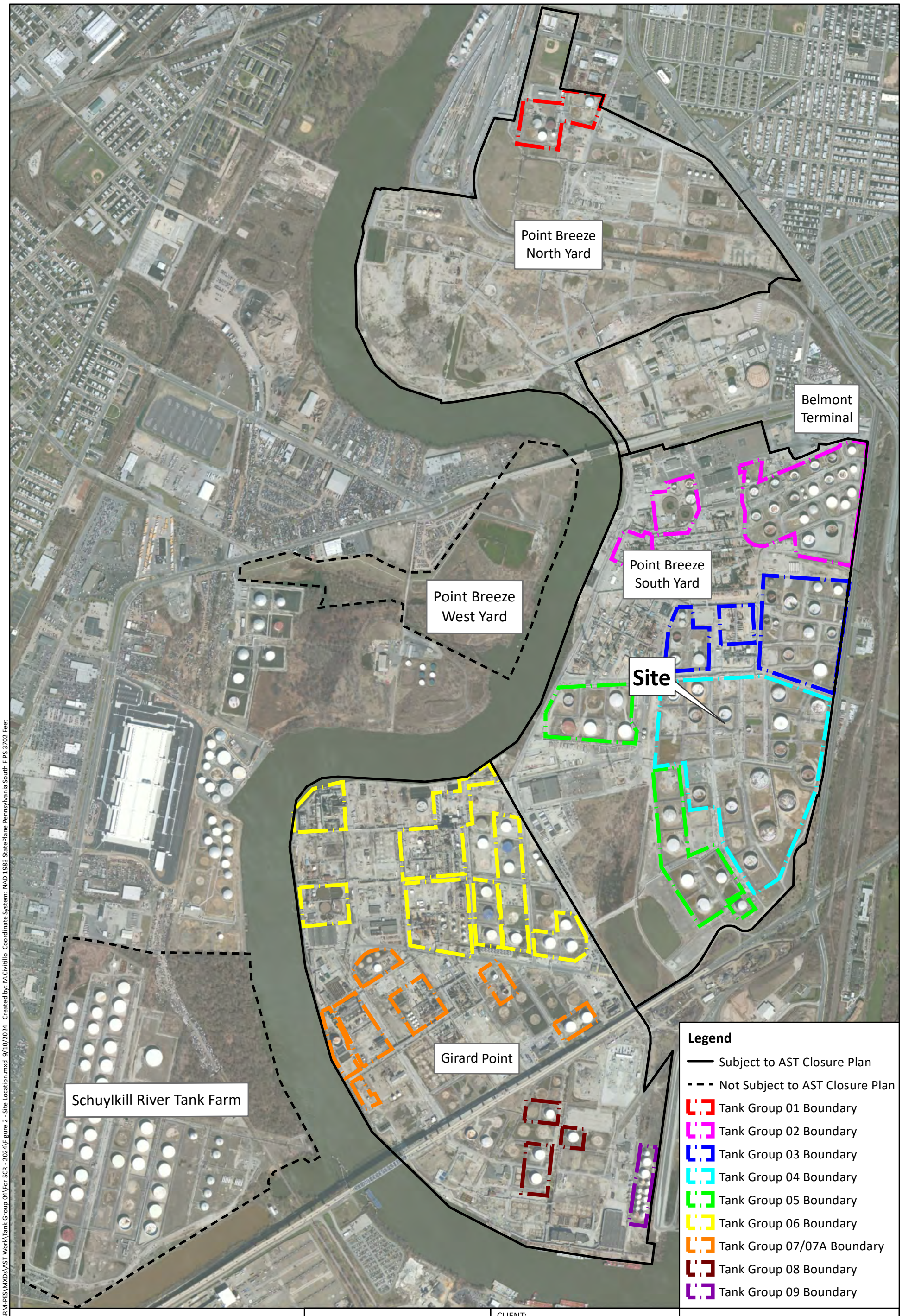
PROJECT: Aboveground Storage Tank Closure

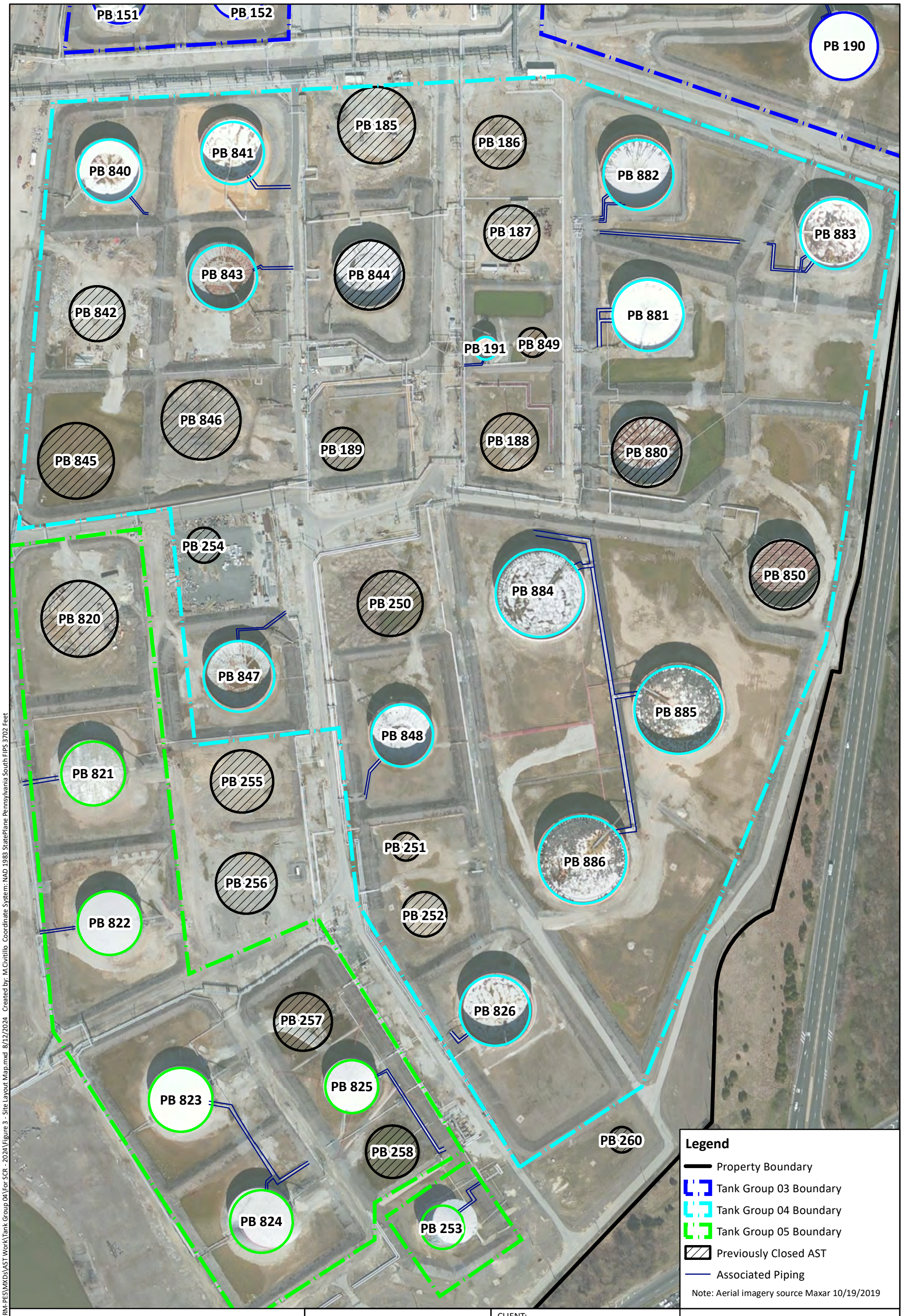
PROJECT NUMBER: P044.001.002

Facility Location

Figure 1

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For SCR - 2024\Figure 1 - Facility Location.mxd 8/12/2024 Created by: M.Civitillo Coordinate System: NAD 1983 StatePlane New Jersey FIPS 2900 Feet


Point Breeze North Yard
Belmont Terminal
Point Breeze West Yard
Point Breeze South Yard
Site
Girard Point
Schuylkill River Tank Farm
Legend
Subject to AST Closure Plan
Not Subject to AST Closure Plan
Tank Group 01 Boundary
Tank Group 02 Boundary
Tank Group 03 Boundary
Tank Group 04 Boundary
Tank Group 05 Boundary
Tank Group 06 Boundary
Tank Group 07/07A Boundary
Tank Group 08 Boundary
Tank Group 09 Boundary
N
0 500 1,000 1,500
Feet
1 inch = 1,000 feet
Notes: Aerial imagery source Maxar 10/19/2019
SAFETY FIRST
terraphase engineering
CLIENT: Bellwether District Holdings, LLC
PROJECT: Aboveground Storage Tank Closure
PROJECT NUMBER: P044.001.002
Site Location
Figure 2
File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For SCR - 2024\Figure 2 - Site Location.mxd 9/10/2024 Created by: M.Civitillo Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet


PB 151
PB 152
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PB 260
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PB 253
Legend
Property Boundary
Tank Group 03 Boundary
Tank Group 04 Boundary
Tank Group 05 Boundary
Previously Closed AST
Associated Piping
Note: Aerial imagery source Maxar 10/19/2019
N
0 100 200 300 Feet
1 inch = 200 feet
SAFETY FIRST
terraphase engineering
CLIENT: Bellwether District Holdings, LLC
PROJECT: Aboveground Storage Tank Closure
PROJECT NUMBER: P044.001.002
Site Layout Map
Figure 3
File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For SCR - 2024\Figure 3 - Site Layout Map.mxd 8/12/2024 Created by: M.Civitillo Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

PB 150
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PB 824
PB 253
S-307
S-61
S-361
S-362
S-310
S-213
TG03-MW-03
TG03-MW-04
S-263
S-260
S-44
TG03-MW-05
S-259
S-255
Steen-MW-64
S-258
S-228
S-227
S-256
S-43
ARCO-3
S-312
S-214
S-118
S-257
TG03-MW-06
S-368
S-104
S-102
S-95
S-366
S-103
S-367
S-41
ARCO-2
S-369
TG04-MW-01
S-225
S-364
S-281
S-60
S-229
S-365
S-216
S-379
S-407
Evergreen's Former RW-2 System
S-415
S-119
S-40
MW-4
MW-1
S-96
S-416
S-385
S-380
S-57
S-35
S-36
S-34
Evergreen's Former S-36 System
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S-121
TG04-MW-03
S-218
S-39
S-386
S-371
S-30
Evergreen's Former S-30 System
BF-101
S-285
S-122
S-219
S-372
S-17
S-446
S-446_CD
S-387
S-290
S-220
S-279
S-27
S-38
S-445
S-445_CD
S-373
S-244
S-245
S-447
S-447_CD
S-409
S-410
S-374
S-444
S-444_CD
S-16
S-18
S-21
S-14
S-12
S-20
S-24
S-240
S-237
S-246
RW-700
RW-701
TG05-MW-01
RW-703
RW-702
S-233
RW-705
RW-704
S-124
RW-706
S-235
S-223
RW-707
S-242
RW-708
RW-710
RW-709
S-239
S-234
S-278
RW-711
RW-712
RW-714
RW-713
RW-716
S-329
S-222
S-243
AOI4-BH-20-04
RW-717
S-441
S-441_CD
RW-715
S-224
S-442_CD
S-442
S-375
S-443_CD
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S-97
S-123
S-11
S-408
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S-377
AOI4-BH-20-01
AOI4-BH-20-02
S-440
S-440_CD
S-448
S-448_CD
S-10
S-9
S-5
S-476
S-291

Legend

- Property Boundary
- Tank Group 03 Boundary
- Tank Group 04 Boundary
- Tank Group 05 Boundary
- Previously Closed AST
- Remediation System
- Berm Boundary
- Groundwater Flow Direction
- Associated Piping
- BDH Monitoring Well
- Evergreen Monitoring Well

Color Scheme for Identifying GW Exceedances

- Exceeds NonRes Used Aquifer MSC
- No Exceedances

Notes:

Interpreted groundwater flow is primarily based on February 2023 performed by Terraphase.

Results shown for each well are the maximum concentrations from the two most recent groundwater sampling events and only consider the Short List 1-6 constituents analyzed within Tank Group 04, Results range from November 13, 2003 through April 27, 2023.

0 60 120 240 Feet

1 inch = 120 feet

N

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CLIENT: Bellwether District Holdings, LLC

PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

Unconfined Groundwater Sampling Results

Figure 4

File: N:\GIS\Pr\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For SCR - 2024\Figure 4 - Interpreted Unconfined GW Flow.mxd 5/16/2025 Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet Created by: A.Spiers Checked by: K. Long

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PB 840
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PB-840-02
PB-840-03
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PB-840-16

PB 841
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PB 843
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PB 191
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PB 882
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PB-883-13

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PB 884
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PB-826-11
PB-826-12
PB-826-13
PB-826-14
PB-826-15
PB-826-16

Evergreen's Former RW-2 System
Evergreen's Former S-36 System
Evergreen's Former S-30 System
Evergreen's Former Penrose Avenue Remediation System

Legend

- Property Boundary
- Tank Group 03 Boundary
- Tank Group 04 Boundary
- Tank Group 05 Boundary
- Previously Closed AST
- Remediation System
- Berm Boundary
- Associated Piping
- BDH Site Assssment Soil Sample Location

0 50 100 200 Feet
1 inch = 100 feet

N

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CLIENT: Bellwether District Holdings, LLC

PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

Site Assessment Soil Sampling Locations

Figure 5

File: N:\GIS\Pr1\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For SCR - 2024\Figure 5 - Site Assessment Soil Sampling Locations.mxd 5/16/2025 Created by: A.Spiers Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

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PB 152
PB 160
PB 162
PB 177
PB 174
PB 190
PB 185
PB 186
PB 840
PB 841
PB-840-09R
PB 882
PB 883
PB 187
PB 843
PB 844
PB 842
PB 881
Evergreen's Former RW-2 System
PB 191
PB 849
PB 846
PB 845
PB 189
PB 188
PB 880
PB 254
Evergreen's Former S-36 System
PB 850
PB 250
PB 884
PB 820
PB 847
PB-847-15R
PB 885
PB 848
PB-848-07R
PB 821
PB 255
PB 251
Evergreen's Former S-30 System
PB 886
PB 256
PB 252
PB 822
PB 826
PB 257
PB 823
PB 825
PB 258
PB 260
PB 824
PB 253
Evergreen's Former Penrose Avenue Remediation System

Legend

- Property Boundary
- Tank Group 03 Boundary
- Tank Group 04 Boundary
- Tank Group 05 Boundary
- Previously Closed AST
- Remediation System
- Berm Boundary
- Associated Piping
- BDH Site Characterization Soil Sample Location

0 50 100 200 Feet

1 inch = 100 feet

N

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terraphase engineering

CLIENT: Bellwether District Holdings, LLC

PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

Site Characterization Soil Sampling Locations

Figure 6a

File: N:\GIS\Pr\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For SCR - 2024\Figure 6a - Site Characterization Soil Sampling Locations.mxd 5/16/2025 Created by: A.Spiers Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

PB 151
PB 152
PB 160
PB 162
PB 177
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PB 185
PB 186
PB 840
PB 841
TG04-MW-01
PB 882
PB 883
PB 187
PB 843
PB 844
PB 842
PB 881
Evergreen's Former RW-2 System
PB 191
PB 849
PB 846
PB 845
PB 189
PB 188
PB 880
PB 254
Evergreen's Former S-36 System
PB 850
PB 820
PB 250
PB 884
TG04-MW-03
PB 847
PB 885
PB 848
TG04-MW-02
S-219
PB 821
PB 255
PB 251
Evergreen's Former S-30 System
PB 886
PB 256
PB 252
PB 822
PB 826
PB 257
PB 825
PB 823
PB 258
PB 260
PB 824
PB 253
Evergreen's Former Penrose Avenue Remediation System

Legend

- Property Boundary
- Tank Group 03 Boundary
- Tank Group 04 Boundary
- Tank Group 05 Boundary
- Previously Closed AST
- Remediation System
- Berm Boundary
- Associated Piping
- BDH Site Characterization Monitoring Well Location

Note:
Pre-existing Evergreen monitoring well S-219 was used to supplement groundwater data as TG04-MW-02 was dry following installation.

0 50 100 200 Feet
1 inch = 100 feet

N

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CLIENT: Bellwether District Holdings, LLC

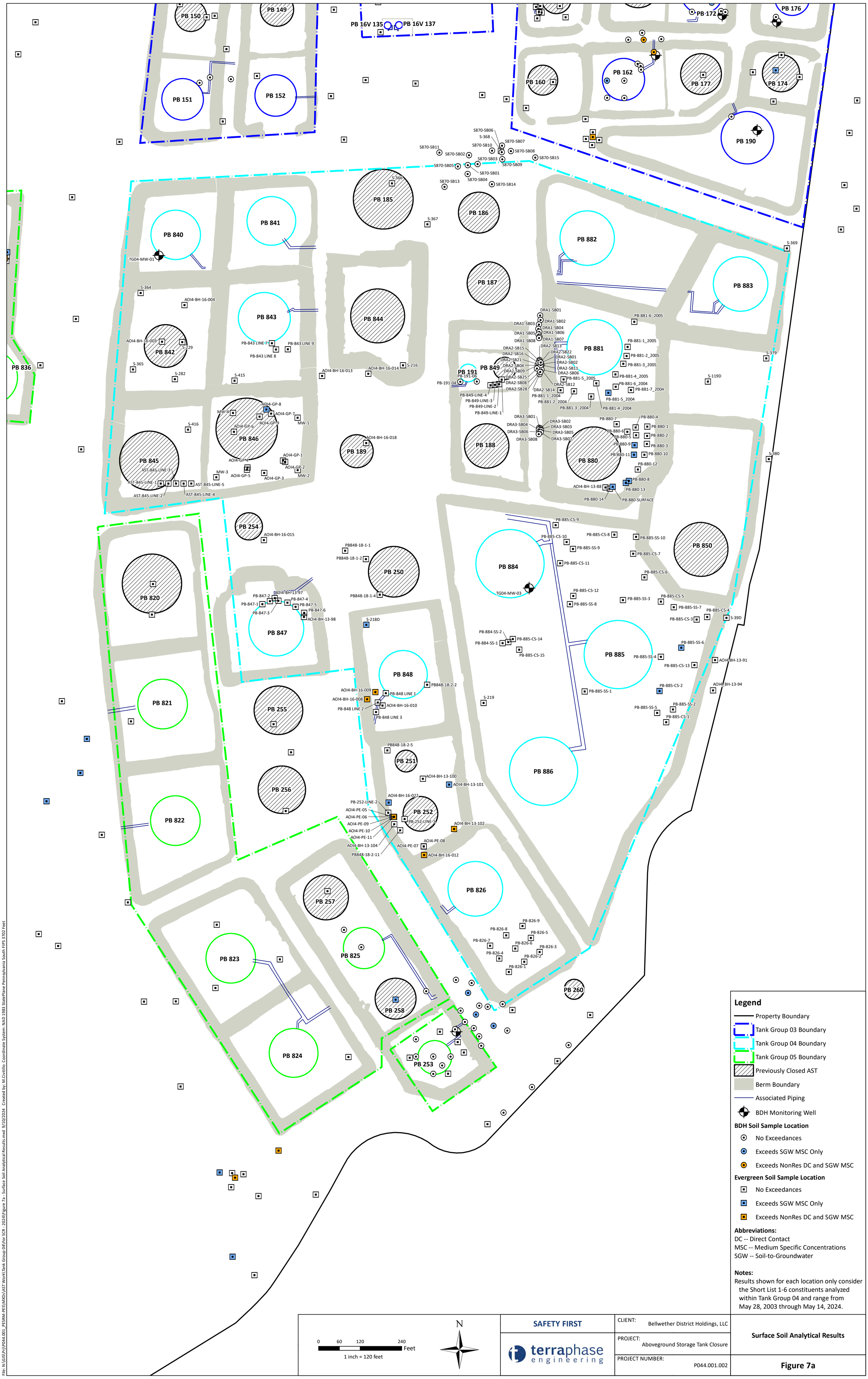
PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

Site Characterization Monitoring Well Locations

Figure 6b

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For SCR - 2024\Figure 6b - Site Characterization Monitoring Well Locations.mxd 5/19/2025 Created by: A.Spiers Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet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PB 150
PB 16V 135
PB 16V 137
PB 151
PB 152
PB 172
PB 176
PB 160
PB 162
PB 177
PB 174
PB 190
S870-SB06
S-368
S870-SB07
S870-SB11
S870-SB10
S870-SB08
S870-SB02
S870-SB03
S870-SB15
S870-SB05
S870-SB09
S870-SB01
S870-SB13
S870-SB04
S870-SB14
S-366
PB 185
PB 186
S-367
PB 840
PB 841
PB 882
S-369
TG04-MW-01
PB 187
PB 883
S-364
AOI4-BH-16-004
PB 843
PB 844
DRA1-SB01
DRA1-SB03
DRA1-SB02
DRA1-SB04
DRA1-SB05
DRA1-SB06
DRA1-SB08
DRA1-SB07
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PB-881-2_2004
PB-881-1_2004
PB-881-5_2005
PB 881
S-379
AOI4-BH-16-003
PB 842
S-229
PB-843 LINE 7
PB-843 LINE 9
PB-843 LINE 8
S-365
S-282
S-415
AOI4-BH-16-013
AOI4-BH-16-014
S-216
PB 836
PB 191
PB-191-06
PB-191-04
PB 849
DRA2-SB15
DRA2-SB16
DRA2-SB21
DRA2-SB04
DRA2-SB09
DRA2-SB25
DRA2-SB08
DRA2-SB28
DRA2-SB13
DRA2-SB22
DRA2-SB01
DRA2-SB02
DRA2-SB11
DRA2-SB06
DRA2-SB12
DRA2-SB14
PB-849-LINE-4
PB-849-LINE-3
PB-849-LINE-2
PB-849-LINE-1
S-119D
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MW-4
AOI4-GP-7
AOI4-GP-6
AOI4-GP-9
MW-1
S-416
PB 846
AOI4-GP-4
AOI4-GP-1
AOI4-GP-2
MW-3
AOI4-GP-5
AOI4-GP-3
MW-2
PB 845
AST-845-LINE-3
AST-845-LINE-1
AST-845-LINE-5
AST-845-LINE-2
AST-845-LINE-4
AOI4-BH-16-018
PB 189
DRA3-SB01
DRA3-SB04
DRA3-SB02
DRA3-SB03
DRA3-SB06
DRA3-SB05
DRA3-SB08
DRA3-SB07
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PB-880-6
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PB-880-3
PB-880-11
PB-880-10
PB 880
S-380
PB-880-12
PB-880-8
AOI4-BH-13-88
PB-880-13
PB-880-14
PB-880-SURFACE
PB 254
AOI4-BH-16-015
PB848-18-1-1
PB848-18-1-2
PB 250
PB848-18-1-4
PB-885-CS-9
PB-885-CS-10
PB-885-CS-8
PB-885-SS-10
PB-885-SS-9
PB-885-CS-7
PB-885-CS-11
PB-885-CS-6
PB 884
PB 850
TG04-MW-03
PB-885-CS-12
PB-885-SS-8
PB-885-SS-3
PB-885-CS-5
PB-885-SS-7
PB-885-CS-4
PB-885-CS-3
S-39D
PB 820
PB-847-2
AOI4-BH-13-97
PB-847-4
PB-847-1
PB-847-5
PB-847-3
PB-847-6
AOI4-BH-13-98
PB 847
S-218D
PB-884-SS-2
PB-884-SS-1
PB-885-CS-14
PB-885-CS-15
PB 885
PB-885-SS-6
PB-885-SS-4
AOI4-BH-13-91
PB-885-CS-13
PB-885-CS-2
AOI4-BH-13-94
PB-885-SS-1
PB-885-SS-2
PB-885-SS-5
PB-885-CS-1
PB 821
PB 848
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AOI4-BH-16-009
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AOI4-BH-16-008
AOI4-BH-16-010
PB-848 LINE 2
PB-848 LINE 3
PB 255
S-219
PB848-18-2-5
PB 251
AOI4-BH-13-100
AOI4-BH-13-101
PB 886
PB 256
AOI4-BH-16-022
PB-252-LINE-2
AOI4-PE-05
AOI4-PE-06
AOI4-PE-09
AOI4-PE-10
AOI4-PE-11
AOI4-BH-13-104
PB848-18-2-11
PB 252
PB-252-LINE-1
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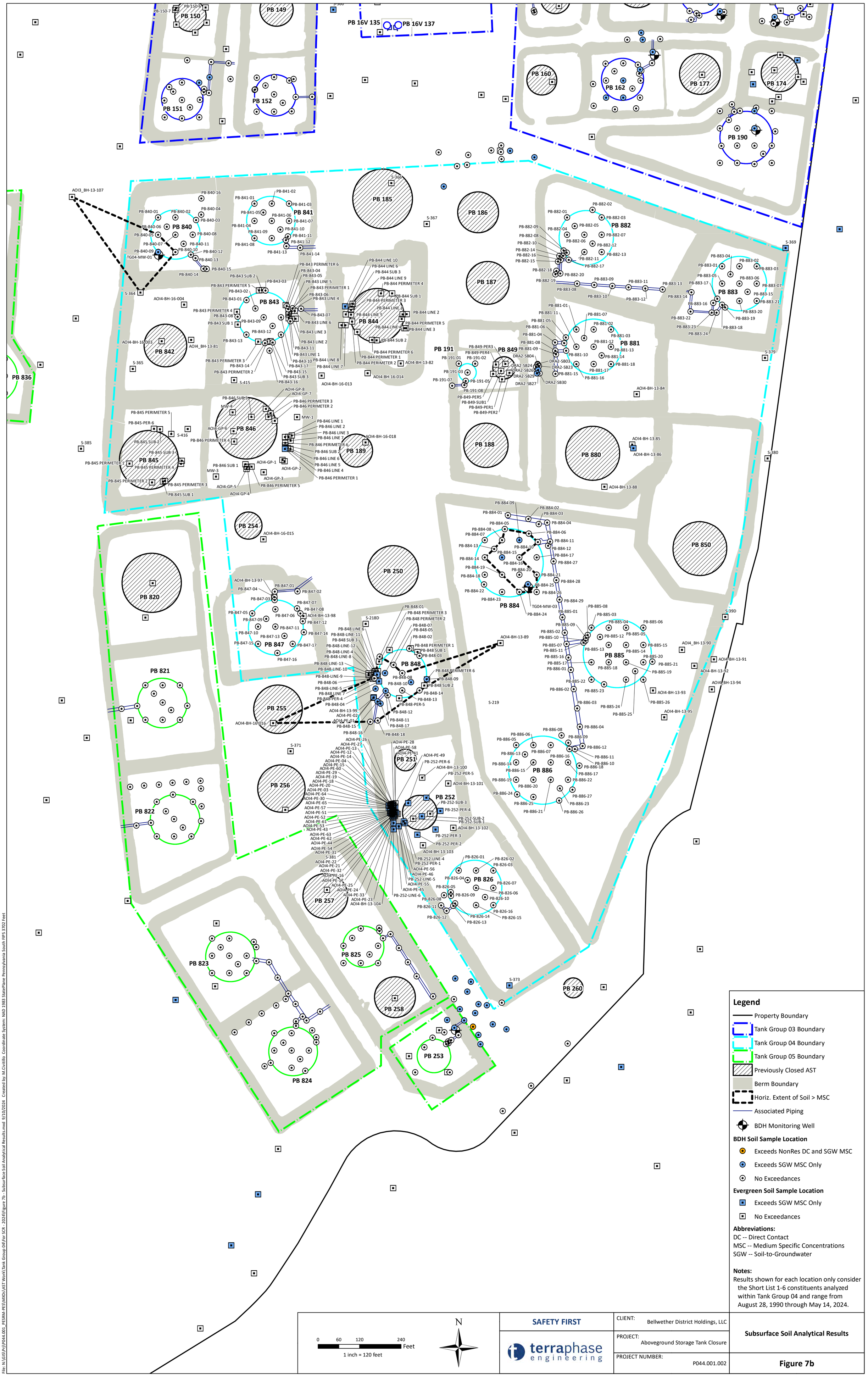
AOI4-PE-08
AOI4-PE-07
AOI4-BH-16-012
PB 822
PB 257
PB 826
PB-826-9
PB-826-8
PB-826-5
PB-826-7
PB-826-6
PB-826-3
PB-826-4
PB-826-2
PB-826-1
PB 823
PB 825
PB 258
PB 260
PB 824
PB 253
Legend
Property Boundary
Tank Group 03 Boundary
Tank Group 04 Boundary
Tank Group 05 Boundary
Previously Closed AST
Berm Boundary
Associated Piping
BDH Monitoring Well
BDH Soil Sample Location
No Exceedances
Exceeds SGW MSC Only
Exceeds NonRes DC and SGW MSC
Evergreen Soil Sample Location
No Exceedances
Exceeds SGW MSC Only
Exceeds NonRes DC and SGW MSC
Abbreviations:
DC -- Direct Contact
MSC -- Medium Specific Concentrations
SGW -- Soil-to-Groundwater
Notes:
Results shown for each location only consider the Short List 1-6 constituents analyzed within Tank Group 04 and range from May 28, 2003 through May 14, 2024.
0 60 120 240
Feet
1 inch = 120 feet
N
SAFETY FIRST
terraphase engineering
CLIENT: Bellwether District Holdings, LLC
PROJECT: Aboveground Storage Tank Closure
PROJECT NUMBER: P044.001.002
Surface Soil Analytical Results
Figure 7a
File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For SCR - 2024\Figure 7a - Surface Soil Analytical Results.mxd 9/10/2024 Created by: M.Civitillo Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet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S-366
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PB 187
AOI3_BH-13-107
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AOI4_BH-13-81
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PB-849-SUB1
PB-849-PER1
PB-849-PER2
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MW-4
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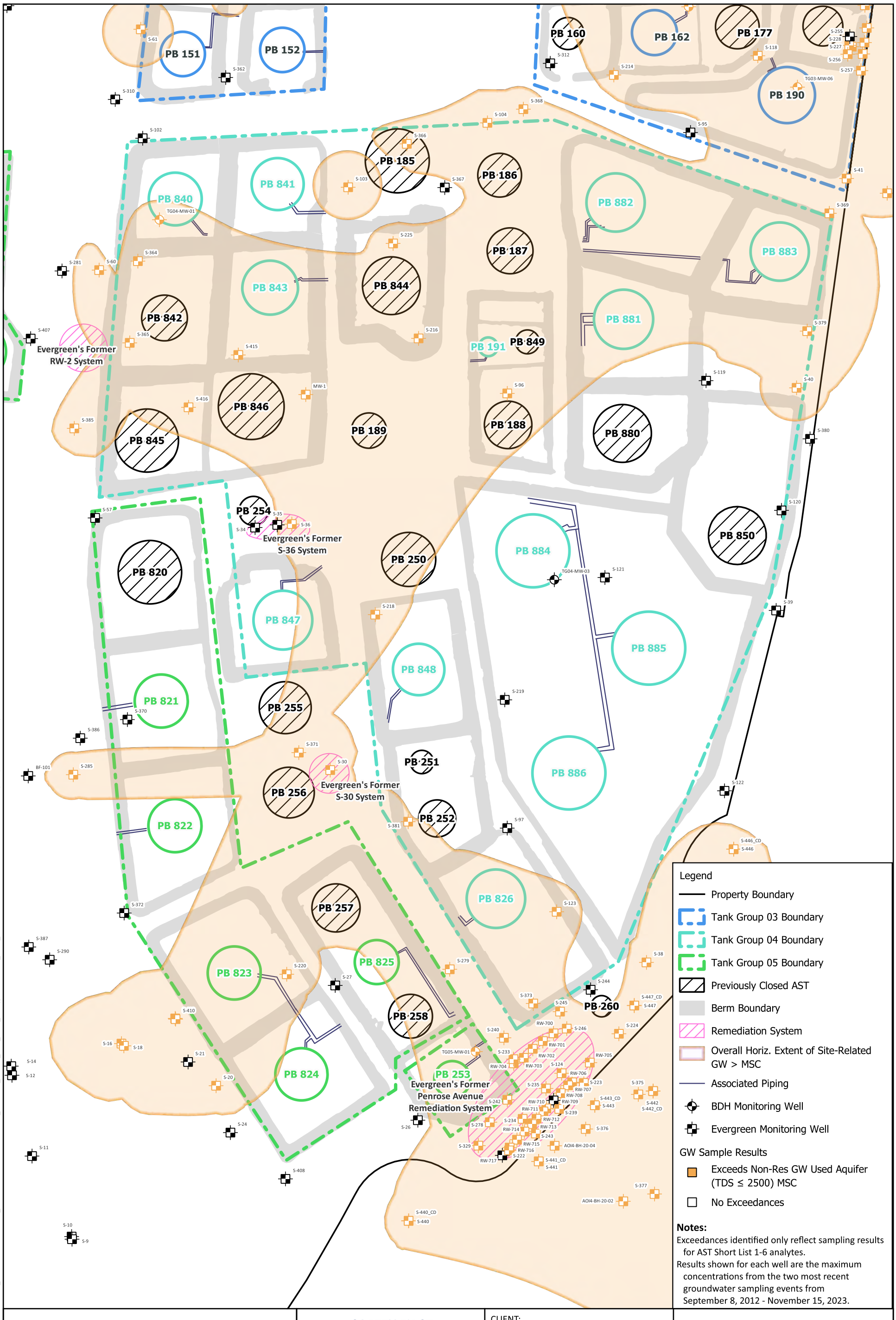
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Evergreen's Former RW-2 System
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Evergreen's Former S-36 System
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Evergreen's Former S-30 System
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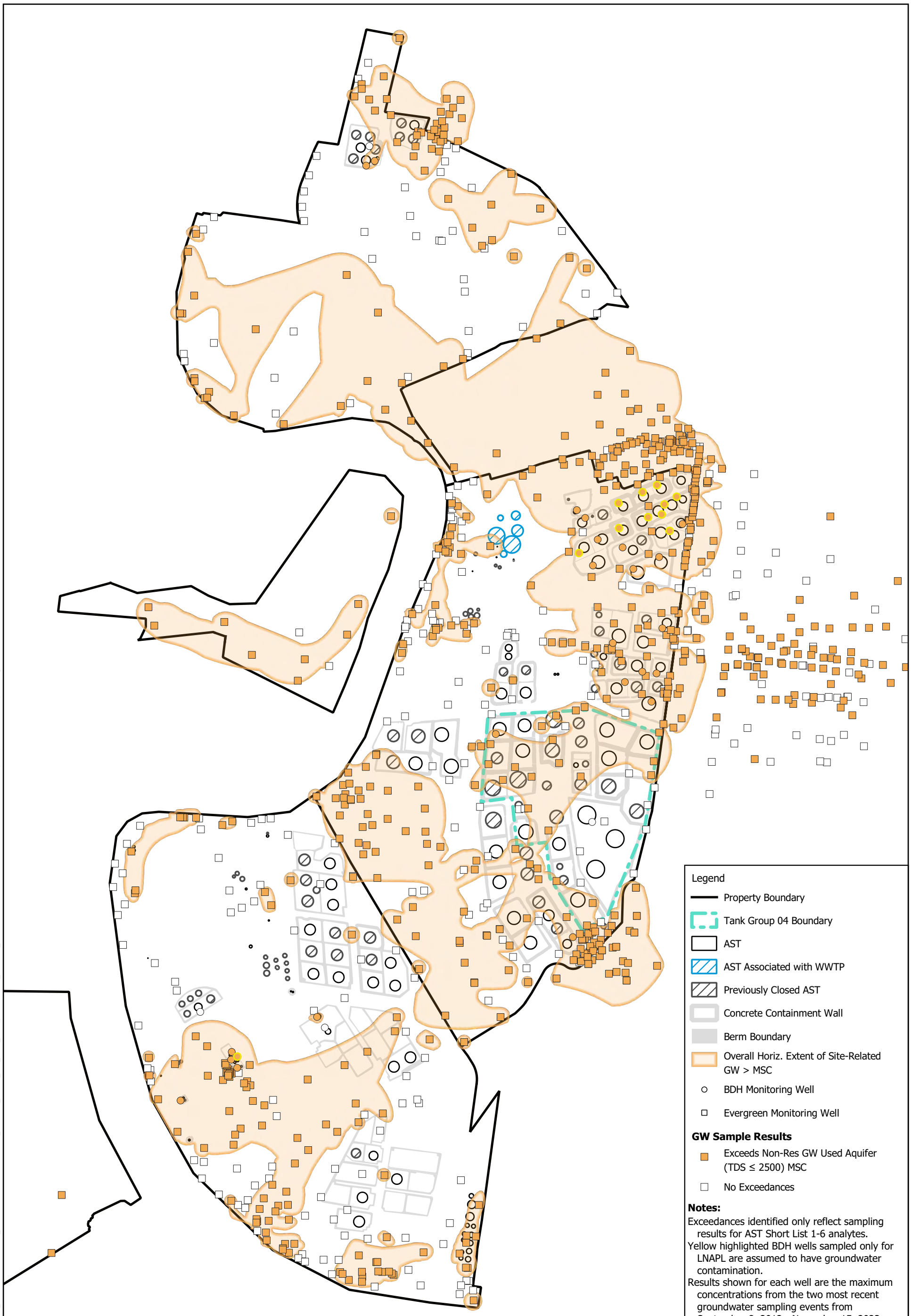
PB 260
PB 824
PB 253
Evergreen's Former Penrose Avenue Remediation System
Legend
Property Boundary
Tank Group 03 Boundary
Tank Group 04 Boundary
Tank Group 05 Boundary
Previously Closed AST
Berm Boundary
Remediation System
Overall Horiz. Extent of Site-Related GW > MSC
Associated Piping
BDH Monitoring Well
Evergreen Monitoring Well
GW Sample Results
Exceeds Non-Res GW Used Aquifer (TDS ≤ 2500) MSC
No Exceedances
Notes:
Exceedances identified only reflect sampling results for AST Short List 1-6 analytes.
Results shown for each well are the maximum concentrations from the two most recent groundwater sampling events from September 8, 2012 - November 15, 2023.
N
0
120
240
360 ft
1 Inch = 240 Feet
SAFETY FIRST
terraphase engineering
CLIENT: Bellwether District Holdings, LLC
PROJECT: Aboveground Storage Tank Closure
PROJECT NUMBER: P044.001.002
Extent of GW > MSC (Tank Group 04)
Figure 8a
N:\GIS\Prj\P044.001_PESRM-PES\QGIS_QGZ and GPKG\Branch_AST\TG04\(20241023) QGZ328_P044.001_PESRM_BDH_TG04_GW.qgz 20240820_TG04_GWExtent 2023-10-17T10:19:57.000 Created by: A.Spiers Checked by: initial


Legend
Property Boundary
Tank Group 04 Boundary
AST
AST Associated with WWTP
Previously Closed AST
Concrete Containment Wall
Berm Boundary
Overall Horiz. Extent of Site-Related GW > MSC
BDH Monitoring Well
Evergreen Monitoring Well
GW Sample Results
Exceeds Non-Res GW Used Aquifer (TDS ≤ 2500) MSC
No Exceedances
Notes:
Exceedances identified only reflect sampling results for AST Short List 1-6 analytes.
Yellow highlighted BDH wells sampled only for LNAPL are assumed to have groundwater contamination.
Results shown for each well are the maximum concentrations from the two most recent groundwater sampling events from September 8, 2012 - November 15, 2023.
N
0 250 500 750 1,000 ft
1 Inch = 1000 Feet
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CLIENT: Bellwether District Holdings, LLC
PROJECT: Aboveground Storage Tank Closure
PROJECT NUMBER: P044.001.002
Extent of GW > MSC (Facility-Wide)
Figure 8b
N:\GIS\Prj\P044.001_PESRM-PES\QGIS_QGZ and GPKG\Branch_AST\TG03\(20240612) QGZ328_P044.001_PESRM_AST_TG03_GW.qgz 20240618_SiteWide_GWContamination 2023-10-17T10:19:57.000 Created by: A.Spiers Checked by: K. Long

PB 150
PB 149
PB 151
PB 152
PB 16V 135
PB 16V 137
PB 159
PB 161
PB 172
PB 176
PB 160
PB 162
PB 177
PB 174
PB 190
PB 185
PB 186
PB 840
PB 841
PB 882
PB 187
PB 883
PB 842
PB 843
PB 844
PB 881
PB 191
PB 849
PB 846
PB 845
PB 189
PB 188
PB 880
PB 254
PB 820
PB 250
PB 884
PB 850
PB 847
PB 885
PB 848
PB 821
PB 255
PB 251
PB 886
PB 822
PB 252
PB 257
PB 826
PB 825
PB 823
PB 258
PB 260
PB 824
PB 253
PB 256

S-307
S-360 0.12
S-361
S-61
S-213
TG03-MW-03
TG03-MW-04
S-263
S-45
S-260
S-44
TG03-MW-05
S-259
STEEN-MW-64
S-255
S-228
S-227
S-258
ARCO-3
S-118
S-312
S-214
S-256
S-43
MWELL-30
S-257
TG03-MW-06
S-399
S-392D
S-368
S-104 8.17
S-311
S-95
S-102
S-59D
S-366
S-103 0.17
S-367
MWELL-31
S-42I
S-41
S-264D
ARCO-2
S-369
TG04-MW-01
S-225
S-364
S-281
S-60 0.58
S-407
RW-2
S-59
S-365 0.029
S-282 0.01
Evergreen's Former RW-2 System
S-415
S-216
S-379
S-119D
S-119
S-40
S-416
S-380
S-57
S-35
S-36
S-34
Evergreen's Former S-36 System
S-218
S-218D
S-121
TG04-MW-03
S-120
S-39D
S-39
S-32
TG04-MW-02
S-219
S-370
S-371
S-30 4.36
S-29 3.93
Evergreen's Former S-30 System
S-285 1.12
BF-101
S-122
S-28
S-381
S-446
S-372
S-17
S-123
S-290
S-279 0.04
S-38
S-38D
S-38D2
S-445
S-220 0.05
S-244
S-373 0.01
S-241 2.19
S-245
S-447
S-409
S-410 0.04
S-221 0.55
S-236
S-240 0.59
S-237 0.01
S-246
RW-700
RW-701
S-224
S-374
S-444
S-16
S-18 0.01
TG05-MW-01 1.89
S-233 Sheen
RW-702
S-238
RW-703
S-124 0.04
RW-704
RW-705
S-14
S-13
S-12
S-21 0.01
RW-706
S-20
S-22
S-19
S-242
S-235
RW-707
S-223
S-375
S-442
RW-709
RW-708
S-239
S-443
S-26
Evergreen's Former Penrose Avenue Remediation System
S-278
S-234
RW-711
RW-710
RW-712
RW-713
S-243
RW-714
S-376
S-329
RW-716
S-222
RW-715
RW-717
S-441
S-378
S-11
S-408
S-23
S-377 0.02
S-440
S-10
S-9
S-8
S-25
S-449
S-448
S-5
S-476
S-291

Legend

- Property Boundary
- Tank Group 03 Boundary
- Tank Group 04 Boundary
- Tank Group 05 Boundary
- Previously Closed AST
- Remediation System
- Berm Boundary
- Current Estimated Extent of LNAPL

Estimated Extent of LNAPL as Documented in AOI 4 RIR

- Light Distillate
- Middle Distillate
- Heavy Distillate
- Mix of Light/Middle Distillate
- Associated Piping
- BDH Monitoring Well
- Evergreen Monitoring Well

Color Scheme for LNAPL Thickness

- No LNAPL
- LNAPL Observed

Notes:
The current estimated extent of LNAPL is based upon the most recent gauging event at each location, which range from June 3, 2019 to April 16, 2024.
The estimated extent of LNAPL prepared by Stantec (2017) is based upon observed LNAPL thickness for wells guaged from 2004 to 2016.

Label Notation Key:
Location Code
LNAPL Thickness (ft)

0 60 120 240 Feet
1 inch = 120 feet

N

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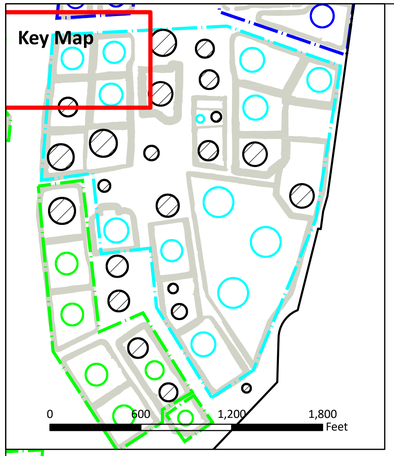
CLIENT: Bellwether District Holdings, LLC
PROJECT: Aboveground Storage Tank Closure
PROJECT NUMBER: P044.001.002

Current Estimated Extent of LNAPL

Figure 9

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For SCR - 2024\Figure 9 - Current Estimated Extent of LNAPL - TG04.mxd 6/23/2025 Created by: M.Civitillo Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet



PB-840-01	3-3.5(ft)
VOCs	
Benzene	0.006 / 0.00057 U
MTBE	0.0032 U / 0.0023 U
Metals	
Lead	19.2 / 36.7

PB-840-02	3-3.5(ft)
VOCs	
Benzene	0.00021 J
MTBE	0.002 U
Metals	
Lead	4.66

PB-840-03	4.5-5(ft)
VOCs	
Benzene	0.00048 U
MTBE	0.0019 U
Metals	
Lead	5.92

PB-840-16	3-3.5(ft)
VOCs	
Benzene	0.00044 U
MTBE	0.0018 U
Metals	
Lead	53.1

PB-840-04	3-3.5(ft)
VOCs	
Benzene	0.00052 U
MTBE	0.0021 U
Metals	
Lead	10.9

PB-840-08	3-3.5(ft)
VOCs	
Benzene	0.00069
MTBE	0.0022 U
Metals	
Lead	5.75

PB-840-06	4.5-5(ft)
VOCs	
Benzene	0.00046 U
MTBE	0.0018 U
Metals	
Lead	6.05

PB-840-11	2.5-3(ft)
VOCs	
Benzene	0.0084
MTBE	0.0016 U
Metals	
Lead	7.06

PB-840-05	3-3.5(ft)
VOCs	
Benzene	0.00072 U
MTBE	0.0029 U
Metals	
Lead	103

PB-840-12	3-3.5(ft)
VOCs	
Benzene	0.00053 U
MTBE	0.0021 U
Metals	
Lead	5.21

PB-840-07	3-3.5(ft)
VOCs	
Benzene	0.023
MTBE	0.0022 U
Metals	
Lead	4.94

PB-840-13	3-3.5(ft)
VOCs	
Benzene	0.00059 U
MTBE	0.0024 U
Metals	
Lead	6.78

PB-840-09	4.5-5(ft)	10-10.5(ft)
VOCs		
Benzene	**4.4 {C}**	0.00052 U
MTBE	0.61 U	0.0021 U
Metals		
Lead	4.3	9.99

PB-840-10	3-3.5(ft)
VOCs	
Benzene	0.00055 U
MTBE	0.0022 U
Metals	
Lead	5.38

PB-840-14	3-3.5(ft)
VOCs	
Benzene	0.00054 U
MTBE	0.0022 U
Metals	
Lead	44.4

PB-840-15	3-3.5(ft)
VOCs	
Benzene	0.00055 U
MTBE	0.0022 U
Metals	
Lead	49.2

S-310 S-102 S-59D S-103 S-364 S-281 S-60 S-229

PB-840-01 PB-840-02 PB-840-03 PB-840-04 PB-840-16 PB-840-05 PB-840-06 PB-840-07 PB-840-08 PB-840-09 PB-840-10 PB-840-11 PB-840-12 PB-840-13 PB-840-14 PB-840-15 TG04-MW-01

PB 840 (Crude) **PB 841** **PB 842** **PB 843**

Legend
- Property Boundary
- Tank Group 03 Boundary
- Tank Group 04 Boundary
- Tank Group 05 Boundary
- Previously Closed AST
- Berm Boundary
- Associated Piping
- BDH Monitoring Well
- Evergreen Monitoring Well

BDH Soil Sample Location
- Exceeds SGW MSC
- No Exceedances

Evergreen Soil Sample Location
- No Exceedances

PB-848-04	4-4.5(ft)
VOCs	
Benzene	**1.8 {C}**
MTBE	0.51 U
Metals	
Lead	**716 {C}**

Sample Location; Sampling Depth; MSC Exceeded; Result

Soil Screening Levels			
Chemical	{A} PADEP Non-Res Direct Contact with Surface Soil (0-2 ft) MSCs (mg/kg)	{B} PADEP Non-Res Direct Contact with Subsurface Soil (2-15 ft) MSCs (mg/kg)	{C} PADEP Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSCs (mg/kg)
VOCs			
Benzene	280	330	0.5
MTBE	8500	9800	2
Metals			
Lead	1000	190000	450

Qualifiers:
U -- Not Detected
J -- Estimated Concentration

Abbreviations:
DC -- Direct Contact
MSC -- Medium Specific Concentration
SGW -- Soil-to-Groundwater

Exceedance Codes:
{A} Greater than NonRes Surface DC MSC
{B} Greater than NonRes Subsurface DC MSC
{C} Greater than NonRes Used Aquifer SGW MSC

Notes:
All concentrations are presented in mg/kg.
Results exceeding the MSCs are shaded.
Sample locations symbolizing NonRes DC exceedances indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).

0 30 60 Feet
1 inch = 30 feet

N

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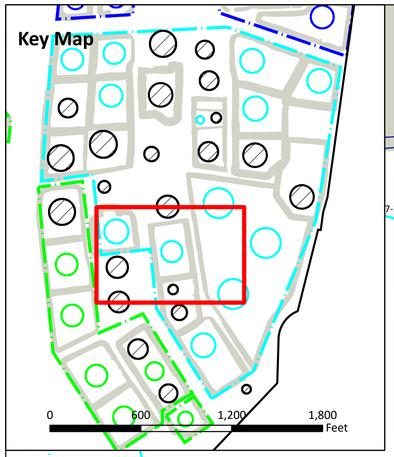
CLIENT: Bellwether District Holdings, LLC
PROJECT: Aboveground Storage Tank Closure
PROJECT NUMBER: P044.001.002

Soil Analytical Results (AST PB 840)

Figure 10a

File: N:\GIS\Prj\P044.001_PESRM-PES\MXD\AST Work\Tank Group 04\Databases\20240813_SO_Database_MSC_DCandSewer\[20240813] Figure 10a - PB 840_Databases_MSC_DCandSewer.mxd 9/10/2024 Created by: M.Civitillo Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet



PB-848-LINE-12	5.5-6(ft)
VOCs	
Benzene	0.33 U,D
MTBE	--
Metals	
Lead	--

PB-848-LINE-11	5.5-6(ft)
VOCs	
Benzene	0.16 U,D
MTBE	--
Metals	
Lead	--

PB-848 PERIMETER 3	3-3.5(ft)
VOCs	
Benzene	0.027 U
MTBE	--
Metals	
Lead	--

PB-848-01	3-3.5(ft)
VOCs	
Benzene	0.001
MTBE	0.0023 U
Metals	
Lead	6.75

PB-848 PERIMETER 2	3-3.5(ft)
VOCs	
Benzene	0.027 U
MTBE	--
Metals	
Lead	--

PB-848 LINE 6	5.5-6(ft)
VOCs	
Benzene	0.028 U
MTBE	--
Metals	
Lead	--

PB-848-02	3-3.5(ft)
VOCs	
Benzene	0.00047 U
MTBE	0.0019 U
Metals	
Lead	26.2

PB-848 PERIMETER 1	3-3.5(ft)
VOCs	
Benzene	0.028 U
MTBE	--
Metals	
Lead	--

PB-848 SUB 1	5-5.5(ft)
VOCs	
Benzene	0.03 U
MTBE	--
Metals	
Lead	--

PB-848-05	3-3.5(ft)
VOCs	
Benzene	0.00056 U / 0.00049 U
MTBE	0.00074 J / 0.00057 J
Metals	
Lead	8.21 / 18.8

PB-848 SUB 3	5-5.5(ft)
VOCs	
Benzene	**20 {C}**
MTBE	--
Metals	
Lead	--

PB-848-03	3-3.5(ft)
VOCs	
Benzene	0.00055 U
MTBE	0.0022 U
Metals	
Lead	51.6

PB-848-LINE-4	5.5-6(ft)
VOCs	
Benzene	0.19 U,D
MTBE	--
Metals	
Lead	--

PB-848-07	4.5-5(ft)	7-7.5(ft)
VOCs		
Benzene	0.14	0.0023
MTBE	0.13 U	0.00026 J
Metals		
Lead	**3200 {C}**	7.5

PB-848-LINE-13	5.5-6(ft)
VOCs	
Benzene	0.13 J,D
MTBE	--
Metals	
Lead	--

PB-848-08	4.5-5(ft)
VOCs	
Benzene	0.0003 J
MTBE	0.0018 U
Metals	
Lead	246

PB-848-10	4.5-5(ft)
VOCs	
Benzene	0.00052 J
MTBE	0.0025 U
Metals	
Lead	**721 {C}**

PB-848-LINE-8	5.5-6(ft)
VOCs	
Benzene	0.27 U,D
MTBE	--
Metals	
Lead	--

PB-848 PERIMETER 6	3-3.5(ft)
VOCs	
Benzene	0.028 U
MTBE	--
Metals	
Lead	--

PB-848-LINE-10	5.5-6(ft)
VOCs	
Benzene	0.15 U,D
MTBE	--
Metals	
Lead	--

PB-848-09	4.5-5(ft)
VOCs	
Benzene	0.00022 J
MTBE	0.002 U
Metals	
Lead	**1140 {C}**

PB848-18-2-2	0.5-1(ft)
VOCs	
Benzene	0.001 J
MTBE	0.0005 U
Metals	
Lead	--

PB-848 LINE 7	5.5-6(ft)
VOCs	
Benzene	0.1 J
MTBE	--
Metals	
Lead	--

PB-848 SUB 2	5-5.5(ft)
VOCs	
Benzene	0.027 U
MTBE	--
Metals	
Lead	--

PB-848-LINE-9	5.5-6(ft)
VOCs	
Benzene	0.18 U,D
MTBE	--
Metals	
Lead	--

PB-848-06	4.5-5(ft)
VOCs	
Benzene	0.032 U
MTBE	0.13 U
Metals	
Lead	7.2

PB 255

PB-848-14	4.5-5(ft)
VOCs	
Benzene	0.00019 J
MTBE	0.0023 U
Metals	
Lead	15.7

PB-848-LINE-5	5.5-6(ft)
VOCs	
Benzene	0.3 U,D
MTBE	--
Metals	
Lead	--

PB-848-13	4.5-5(ft)
VOCs	
Benzene	0.036 U
MTBE	0.14 U
Metals	
Lead	28.5

PB-848-PER-4	3-3.5(ft)
VOCs	
Benzene	**0.93 D {C}**
MTBE	--
Metals	
Lead	--

PB-848-11	3-3.5(ft)
VOCs	
Benzene	**0.87 {C}**
MTBE	0.14 U
Metals	
Lead	15

PB-848-PER-5	3-3.5(ft)
VOCs	
Benzene	0.18 U,D
MTBE	--
Metals	
Lead	--

PB-848-04	4-4.5(ft)
VOCs	
Benzene	**1.8 {C}**
MTBE	0.51 U
Metals	
Lead	**716 {C}**

PB-848 LINE 1	0-0.5(ft)
VOCs	
Benzene	0.025 U
MTBE	--
Metals	
Lead	--

PB-848-12	4-4.5(ft)
VOCs	
Benzene	0.00055 U
MTBE	0.0022 U
Metals	
Lead	282

AOI4-BH-16-009	0-2(ft)
VOCs	
Benzene	--
MTBE	--
Metals	
Lead	**1490 J {AC}**

PB-848 LINE 3	0-0.5(ft)
VOCs	
Benzene	0.027 U
MTBE	--
Metals	
Lead	--

PB-848-15	4.5-5(ft)
VOCs	
Benzene	**1.1 {C}**
MTBE	0.11 U
Metals	
Lead	9.28

AOI4-BH-16-010	0-2(ft)
VOCs	
Benzene	--
MTBE	--
Metals	
Lead	160 J

PB 251

AOI4-BH-16-008	0-2(ft)
VOCs	
Benzene	--
MTBE	--
Metals	
Lead	**1760 J {AC}**

AOI4-BH-13-99	2.5-3(ft)
VOCs	
Benzene	0.245
MTBE	0.15 U
Metals	
Lead	**1870 {C}**

AOI4-PE-01	2-2.5(ft)
VOCs	
Benzene	--
MTBE	--
Metals	
Lead	**8400 {C}**

AOI4-PE-02	2-2(ft)
VOCs	
Benzene	--
MTBE	--
Metals	
Lead	**734 {C}**

PB-848-16	3-3.5(ft)
VOCs	
Benzene	0.0006 U
MTBE	0.0024 U
Metals	
Lead	6.41

PB-848 LINE 2	0-0.5(ft)
VOCs	
Benzene	0.028 U
MTBE	--
Metals	
Lead	--

PB-848-18	4.5-5(ft)
VOCs	
Benzene	0.01 J
MTBE	0.11 U
Metals	
Lead	60.7

PB-848-17	3-3.5(ft)
VOCs	
Benzene	0.00077 U
MTBE	0.0031 U
Metals	
Lead	**1840 {C}**

PB 256

PB 848
(Light Cycle Oil)

S-218
S-218D
S-219
S-371
S-30

PB-848 PERIMETER 2
PB-848 PERIMETER 3
PB-848 PERIMETER 1
PB-848 SUB 1
PB-848 SUB 2
PB-848 SUB 3
PB-848 LINE 1
PB-848 LINE 2
PB-848 LINE 3
PB-848 LINE 6
PB-848 LINE 7
PB-848 PERIMETER 6
PB-848-LINE-12
PB-848-LINE-11
PB-848-LINE-4
PB-848-LINE-13
PB-848-LINE-8
PB-848-LINE-10
PB-848-LINE-9
PB-848-LINE-5
PB-848-PER-4
PB-848-PER-5
PB-848-01
PB-848-02
PB-848-03
PB-848-04
PB-848-05
PB-848-06
PB-848-07
PB-848-08
PB-848-09
PB-848-10
PB-848-11
PB-848-12
PB-848-13
PB-848-14
PB-848-15
PB-848-16
PB-848-17
PB-848-18
PB848-18-2-2
TG04-MW-02
AOI4-BH-16-009
AOI4-BH-13-99
AOI4-PE-01
AOI4-PE-02
AOI4-BH-16-008
AOI4-BH-16-010

Legend

- Property Boundary
- Tank Group 04 Boundary
- Previously Closed AST
- Berm Boundary
- Associated Piping
- BDH MonitoringWell
- Evergreen Monitoring Well

BDH Soil Sample Location
- Exceeds SGW MSC
- No Exceedances

Evergreen Soil Sample Location
- Exceeds SGW MSC
- Exceeds DC MSC
- No Exceedances

PB-848-04	4-4.5(ft)	← Sampling Depth
VOCs		
Benzene	**1.8 {C}**	← MSC Exceeded
MTBE	0.51 U	← Result
Metals		
Lead	**716 {C}**	

← Sample Location

Qualifiers:
U -- Not Detected
J -- Estimated Concentration
D -- A compound in the analysis has been diluted

Abbreviations:
DC -- Direct Contact
MSC -- Medium Specific Concentration
SGW -- Soil-to-Groundwater

Exceedance Codes:
{A} Greater than NonRes Surface DC MSC
{B} Greater than NonRes Subsurface DC MSC
{C} Greater than NonRes Used Aquifer SGW MSC

Notes:
All concentrations are presented in mg/kg.
Results exceeding the MSCs are shaded.
Sample locations symbolizing NonRes DC exceedances indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).

Soil Screening Levels

Chemical	{A} PADEP Non-Res Direct Contact with Surface Soil (0-2 ft) MSCs (mg/kg)	{B} PADEP Non-Res Direct Contact with Subsurface Soil (2-15 ft) MSCs (mg/kg)	{C} PADEP Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSCs (mg/kg)
VOCs			
Benzene	280	330	0.5
MTBE	8500	9800	2
Metals			
Lead	1000	190000	450

0 30 60 Feet
1 inch = 30 feet

N

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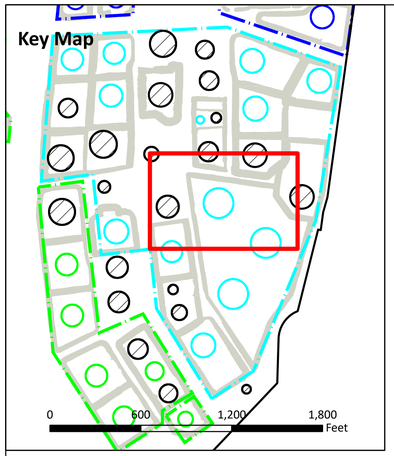
CLIENT: Bellwether District Holdings, LLC
PROJECT: Aboveground Storage Tank Closure
PROJECT NUMBER: P044.001.002

Soil Analytical Results (AST PB 848)

Figure 10b

File: N:\GIS\Prj\P044.001_PERM-PES\MXD\AST Work\Tank Group 04\Databases\20240813_SO_Database_MSC_DCandBase\[\20240813] Figure 10b - PB 848_Databases_MSC_DCandBase.mxd 9/10/2024 Created by: M.Civitello

Projection: Coordinate System: NAD 1983 StatePlane PennsylvaniaSouth FIPS 3702 Feet



PB-884-05	3-3.5(ft)
VOCs	
Benzene	0.0008 U
MTBE	0.0032 U
Metals	
Lead	2.38

PB-884-01	3-3.5(ft)
VOCs	
Benzene	0.0003 J
MTBE	0.0018 U
Metals	
Lead	24.5

PB-884-06	3.5-4(ft)
VOCs	
Benzene	0.0003 J
MTBE	0.0018 U
Metals	
Lead	89

PB-884-02	3-3.5(ft)
VOCs	
Benzene	0.00049 U
MTBE	0.002 U
Metals	
Lead	5.62

PB-884-03	3-3.5(ft)
VOCs	
Benzene	0.00053 U
MTBE	0.0021 U
Metals	
Lead	8.8

PB-884-04	3-3.5(ft)
VOCs	
Benzene	0.00052 U
MTBE	0.0003 J
Metals	
Lead	6.72

PB-884-10	3-3.5(ft)
VOCs	
Benzene	0.00053 U
MTBE	0.0021 U
Metals	
Lead	2.58

PB-884-09	3-3.5(ft)
VOCs	
Benzene	**2 {C}**
MTBE	0.14 U
Metals	
Lead	1.95 J

PB-884-11	3-3.5(ft)
VOCs	
Benzene	0.00051 U
MTBE	0.002 U
Metals	
Lead	37

PB-884-08	4.5-5(ft)
VOCs	
Benzene	0.15
MTBE	0.13 U
Metals	
Lead	60.2

PB-884-12	3-3.5(ft)
VOCs	
Benzene	0.00059 U / 0.00054 U
MTBE	0.0023 U / 0.0021 U
Metals	
Lead	5.65 / 54.3

PB-884-07	3-3.5(ft)
VOCs	
Benzene	0.00066 U
MTBE	0.0027 U
Metals	
Lead	2.61

PB-884-17	3-3.5(ft)
VOCs	
Benzene	0.00058 U
MTBE	0.0023 U
Metals	
Lead	1.99 J

PB-884-13	3-3.5(ft)
VOCs	
Benzene	0.00052 U
MTBE	0.0021 U
Metals	
Lead	3.2

PB-884-27	3-3.5(ft)
VOCs	
Benzene	0.00025 U
MTBE	0.001 U
Metals	
Lead	11.5

PB-884-14	3-3.5(ft)
VOCs	
Benzene	0.00054 U
MTBE	0.0022 U
Metals	
Lead	2.63

PB-884-21	3-3.5(ft)
VOCs	
Benzene	0.00047 U
MTBE	0.0019 U
Metals	
Lead	1.98 J

PB-884-15	3-3.5(ft)
VOCs	
Benzene	**2.6 {C}**
MTBE	0.12 U
Metals	
Lead	1.68 J

PB-884-28	3-3.5(ft)
VOCs	
Benzene	0.00048 U
MTBE	0.0019 U
Metals	
Lead	9.37

PB-884-25	4.5-5(ft)
VOCs	
Benzene	**7.1 {C}**
MTBE	0.11 U
Metals	
Lead	3.11

PB-884-16	3-3.5(ft)
VOCs	
Benzene	0.0009 U
MTBE	0.0036 U
Metals	
Lead	1.86 J

PB-884-18	4.5-5(ft)
VOCs	
Benzene	0.035
MTBE	0.00054 J
Metals	
Lead	7.17

PB-884-22	3-3.5(ft)
VOCs	
Benzene	0.00066 U
MTBE	0.0026 U
Metals	
Lead	2.77

PB-884-19	3-3.5(ft)
VOCs	
Benzene	0.00036 J
MTBE	0.0023 U
Metals	
Lead	1.61 J

PB-884-23	3-3.5(ft)
VOCs	
Benzene	0.0005 U
MTBE	0.002 U
Metals	
Lead	1.61 J

PB-884-20	3-3.5(ft)
VOCs	
Benzene	0.00055 U
MTBE	0.0022 U
Metals	
Lead	1.04 J

PB-884-24	3-3.5(ft)
VOCs	
Benzene	0.034
MTBE	0.0025 U
Metals	
Lead	45.9

PB-884-26	3-3.5(ft)
VOCs	
Benzene	0.0006 U
MTBE	0.0024 U
Metals	
Lead	26.5

PB-884-29	3-3.5(ft)
VOCs	
Benzene	0.00045 U
MTBE	0.0018 U
Metals	
Lead	4.49

PB-884-01 PB-884-02 PB-884-03 PB-884-04 PB-884-05 PB-884-06 PB-884-07 PB-884-08 PB-884-09 PB-884-10 PB-884-11 PB-884-12 PB-884-13 PB-884-14 PB-884-15 PB-884-16 PB-884-17 PB-884-18 PB-884-19 PB-884-20 PB-884-21 PB-884-22 PB-884-23 PB-884-24 PB-884-25 PB-884-26 PB-884-27 PB-884-28 PB-884-29

PB 880

PB 884 (Crude)

PB 250

S-121

TG04-MW-03

Legend

- Property Boundary
- Tank Group 04 Boundary
- Previously Closed AST
- Berm Boundary
- Associated Piping
- BDH MonitoringWell
- Evergreen Monitoring Well

BDH Soil Sample Location

- Exceeds S-GW MSC
- No Exceedances

Evergreen Soil Sample Location

- Exceeds S-GW MSC
- No Exceedances

PB-848-04	4-4.5(ft)
VOCs	
Benzene	**1.8 {C}**
MTBE	0.51 U
Metals	
Lead	**716 {C}**

Sample Location
Sampling Depth
MSC Exceeded
Result

Qualifiers:
U -- Not Detected
J -- Estimated Concentration

Abbreviations:
DC -- Direct Contact
MSC -- Medium Specific Concentration
SGW -- Soil-to-Groundwater

Exceedance Codes:
(A) Greater than NonRes Surface DC MSC
(B) Greater than NonRes Subsurface DC MSC
(C) Greater than NonRes Used Aquifer SGW MSC

Notes:
All concentrations are presented in mg/kg.
Results exceeding the MSCs are shaded.
Sample locations symbolizing NonRes DC exceedances indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).

Soil Screening Levels

Chemical	{A} PADEP Non-Res Direct Contact with Surface Soil (0-2 ft) MSCs (mg/kg)	{B} PADEP Non-Res Direct Contact with Subsurface Soil (2-15 ft) MSCs (mg/kg)	{C} PADEP Non-Res Used Aquifer (TDS ≤ 2500) Soil-to-GW MSCs (mg/kg)
VOCs			
Benzene	280	330	0.5
MTBE	8500	9800	2
Metals			
Lead	1000	190000	450

0 30 60 Feet
1 inch = 30 feet

N

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CLIENT: Bellwether District Holdings, LLC
PROJECT: Aboveground Storage Tank Closure
PROJECT NUMBER: P044.001.002

Soil Sampling Results (AST PB 884)

Figure 10c

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\Databoxes\20240813_SD_Databox_MSC_DCandSoil\20240813] Figure 10c - PB 884_Databoxes_MSC_DCandSoil.mxd 8/19/2024 Created by: M.Civiello Coordinate System: NAD 1983 StatePlane PennsylvaniaSouth FIPS 3702 Feet

PB 151
PB 152
PB 160
PB 162
PB 177
PB 190
PB 185
PB 186
PB 840
PB 841
PB 882
PB 187
PB 883
PB 843
PB 844
PB 842
PB 881
Evergreen's Former
RW-2 System
PB 191
PB 849
PB 846
PB 845
PB 189
PB 188
PB 880
PB 254
Evergreen's Former
S-36 System
PB 250
PB 884
PB 850
PB 820
PB 847
PB 885
PB 848
PB 821
PB 255
PB 251
Evergreen's Former
S-30 System
PB 256
PB 886
PB 822
PB 252
PB 826
PB 257
PB 825
PB 823
PB 258
PB 260
PB 824
PB 253
Evergreen's Former
Penrose Avenue
Remediation System

Legend

- Property Boundary
- Tank Group 03 Boundary
- Tank Group 04 Boundary
- Tank Group 05 Boundary
- Previously Closed AST
- Remediation System
- Berm Boundary
- Associated Piping
- BDH Soil Sample Location
- Evergreen Soil Sample Location

Soil Concentration (mg/kg)

- ≤ 1.0
- > 1.0 and ≤ 10
- > 10 and ≤ 100
- > 100 and ≤ 1,000
- > 1,000 and ≤ 10,000
- > 10,000

Note:
Results presented are the maximum concentrations found at each location regardless of depth.

N

0 110 220 330 ft

1 Inch = 220 Feet

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CLIENT: Bellwether District Holdings, LLC

PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

General Distribution of Benzene in Soil

Figure 11a

N:\GIS\Prj\P044.001_PESRM-PES\QGIS_QGZ and GPKG\Branch_AST\TG04\(20241023) QGZ328_P044.001_PESRM_BDH_TG04_SO.qgz 2024-10-17T10:19:57.000 Created by: A.Spiers Checked by: initial

PB 151
PB 152
PB 160
PB 162
PB 177
PB 190
PB 185
PB 186
PB 840
PB 841
PB 882
PB 187
PB 883
PB 843
PB 844
PB 842
PB 881
Evergreen's Former
RW-2 System
PB 191
PB 849
PB 846
PB 845
PB 189
PB 188
PB 880
PB 254
Evergreen's Former
S-36 System
PB 850
PB 820
PB 250
PB 884
PB 847
PB 885
PB 848
PB 821
PB 255
PB 886
Evergreen's Former
S-30 System
PB 256
PB 251
PB 822
PB 252
PB 257
PB 826
PB 823
PB 825
PB 258
PB 260
PB 824
PB 253
Evergreen's Former
Penrose Avenue
Remediation System

Legend

- Property Boundary
- Tank Group 03 Boundary
- Tank Group 04 Boundary
- Tank Group 05 Boundary
- Previously Closed AST
- Remediation System
- Berm Boundary
- Associated Piping
- BDH Soil Sample Location
- Evergreen Soil Sample Location

Soil Concentration (mg/kg)

- ≤ 1.0
- > 1.0 and ≤ 10
- > 10 and ≤ 100
- > 100 and ≤ 1,000
- > 1,000 and ≤ 10,000
- > 10,000

Note:
Results presented are the maximum concentrations found at each location regardless of depth.

N

0 110 220 330 ft

1 Inch = 220 Feet

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CLIENT: Bellwether District Holdings, LLC

PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

General Distribution of Lead in Soil

Figure 11b

N:\GIS\Prj\P044.001_PESRM-PES\QGIS_QGZ and GPKG\Branch_AST\TG04\(20241023) QGZ328_P044.001_PESRM_BDH_TG04_SO.qgz 20240812-TG04_SO_GenDistribution 2023-10-17T10:19:57.000 Created by: A.Spiers Checked by: initial

TG04-MW-01	1/6/2023	2/9/2023
VOCs		
Benzene	**0.58 {A}**	**0.53 {A} / 0.51 {A}**

TG04-MW-03	1/4/2023	2/9/2023
VOCs		
Benzene	0.0005 U / 0.0005 U	0.0005 U

S-219	1/6/2023	2/9/2023
VOCs		
Benzene	0.0005 U	0.0005 U

Legend

- Property Boundary
- Tank Group 03 Boundary
- Tank Group 04 Boundary
- Tank Group 05 Boundary
- Previously Closed AST
- Remediation System
- Berm Boundary
- Current Estimated Extent of LNAPL

Estimated Extent of LNAPL as Documented in AOI 4 RIR

- Light Distillate
- Middle Distillate
- Heavy Distillate
- Mix of Light/Middle Distillate
- Groundwater Flow Direction
- Associated Piping

Monitoring Well Location

- BDH
- Other
- Other (No GW Characterization Data)

Qualifier:
U - Not Detected

Notes:
All concentrations are presented in mg/L.
Results exceeding the MSCs are shaded.
Interpreted groundwater flow is primarily based on February 2023 performed by Terraphase.
The current estimated extent of LNAPL is based upon the most recent gauging event at each location, which range from June 3, 2019 to April 16, 2024.
The estimated extent of LNAPL prepared by Stantec (2017) is based upon observed LNAPL thickness for wells guaged from 2004 to 2016.

Abbreviations:
GW - Groundwater
MSC - Medium Specific Concentration

Exceedance Code:
{A} Non-Res Used Aquifer

Sample Location
TG04-MW-01 | 1/6/2023 | VOCs | Benzene | 0.58 {A}
Sampling Date
Result/MSC Exceeded

Groundwater Screening Levels	
Chemical	{A} Non-Residential GW Used Aquifer (TDS < 2500) (mg/L)
VOCs	
Benzene	0.0050

0 50 100 200 Feet
1 inch = 100 feet

N

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terraphase engineering

CLIENT: Bellwether District Holdings, LLC

PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

Site Characterization GW Analytical Results

Figure 12

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For SCR - 2024\Figure 12 - SC GW Analytical Results.mxd 6/23/2025 Created by: M.Civitillo Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

Appendix A

Evergreen's Agreement Letter

Evergreen Resources Management
2 Righter Parkway, Suite 120
Wilmington, DE 19803

June 26, 2025

VIA email to cfazzino@pa.gov

Chelsea Fazzino, PG
Pennsylvania Department of Environmental Protection
2 East Main Street
Norristown, PA 19401

Subject: Release Investigation Report – Tank Group 04
Bellwether District Holdings, LLC
3144 West Passyunk Avenue, Philadelphia, PA 19145

Dear Ms. Fazzino,

Evergreen Resources Group, LLC (Evergreen) has reviewed Terraphase Engineering Inc.'s Release Investigation Report – Tank Group 04, written on behalf of Bellwether District Holdings, LLC (BDH). The data collected during BDH's tank investigation activities generally align with data collected by Evergreen as part of our ongoing Act 2 activities for the former refinery property and the Tank Group 04 area is within the boundaries of the Act 2 Site being managed by Evergreen. Available data for the Tank Group 04 area had been incorporated into recent Fate & Transport and Human Health Risk Assessment activities and will be considered in the forthcoming Cleanup Plan activities under primary facility ID 780190.

Regards,

Evergreen Resources Management Operations

Tiffani L. Doerr, PG

cc: Julianna Connolly (jconnolly@hilcoglobal.com)
Amy Piccone (apiccone@hilcoglobal.com)

Appendix B

Aboveground Storage Tank System Closure Report Forms

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS

ABOVEGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

51-33620
Facility I.D.

Former Philadelphia Refinery Point Breeze - Tank Group 4
Facility Name

Philadelphia — Municipality
Philadelphia — County

January 17, 2023
Date Prepared

Kevin L. Long
Name of Person Submitting Report
(Please Print)

Terraphase Engineering
Company Name
(If Applicable)

Principal Consultant
Title

Closure Method (Check all that apply):

- ☒ AST Removal
- ☐ AST Closure-In-Place
- ☐ AST Change-In-Service

Site Assessment Results (Check all that apply):

- ☒ No Obvious Contamination - Sample Results Meet Standards/Levels
- ☒ No Obvious Contamination - Sample Results Do Not Meet Standards/Levels
- ☐ Obvious, Localized Contamination - Sample Results Meet Standards/Levels
- ☐ Obvious, Localized Contamination - Sample Results Do Not Meet Standards/Levels
- ☐ Obvious, Extensive Contamination

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS

DATE RECEIVED: _____

ABOVEGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

Owners who are permanently closing aboveground storage tank systems may use this form to demonstrate that a storage tank system closure was performed in accordance with technical guidance document 263-4200-001 "Closure Requirements for Aboveground Storage Tank Systems". PLEASE PRINT OR TYPE. COMPLETE ALL QUESTIONS.

SECTION I. Owner/Facility/Tank/Waste Management and Disposal Information

1. Facility ID Number 51-33620
2. Facility Name Former Philadelphia Refinery Point Breeze - Tank Group 4
3. Facility County Philadelphia
4. Facility Municipality Philadelphia
5. Facility Address 3144 West Passyunk Avenue
6. Facility Contact Person Anne R. Garr
7. Facility Telephone Number (312) 796-6564
8. Owner Name Philadelphia Energy Solutions Refining and Marketing LLC
9. Owner Mailing Address 111 S. Wacker Dr., Ste 3000
10. Description of Aboveground Storage Tank Systems (Complete for each tank system closed)

DATE OF TANK SYSTEM CLOSURE (Month/Day/Year)		- -	- -	- -	- -
Description of Aboveground Storage Tank System (Complete for each tank system undergoing closure)					
DEP Tank ID Number		See attached Table			
Total Capacity (Gallons)					
Substance(s) Stored Throughout Operating Life of Tank System (Check All That Apply)	**a. Petroleum**				
	Unleaded Gasoline	☐	☐	☐	☐
	Leaded Gasoline	☐	☐	☐	☐
	Aviation Gasoline	☐	☐	☐	☐
	Pure Ethanol	☐	☐	☐	☐
	Blended Ethanol _____%	☐	☐	☐	☐
	Kerosene	☐	☐	☐	☐
	Jet Fuel	☐	☐	☐	☐
	Diesel Fuel	☐	☐	☐	☐
	Biodiesel _____%	☐	☐	☐	☐
	Fuel Oil No. 1	☐	☐	☐	☐
	Fuel Oil No. 2	☐	☐	☐	☐
	Fuel Oil No. 4	☐	☐	☐	☐
	Fuel Oil No. 5	☐	☐	☐	☐
	Fuel Oil No. 6	☐	☐	☐	☐
	New Motor Oil	☐	☐	☐	☐
	Used Motor Oil	☐	☐	☐	☐
	Nonpetroleum Oil, Specify	_____	_____	_____	_____
	Other, Specify	_____	_____	_____	_____
NOTE: If Hazardous Substance Block is Checked, Attach Safety Data Sheets (SDS)	**b. Hazardous Substance**	☐	☐	☐	☐
	Name of Principal CERCLA Substance	_____	_____	_____	_____
	AND				
	Chemical Abstract Service (CAS) No.	_____	_____	_____	_____
	c. Unknown	☐	☐	☐	☐

CLOSURE METHOD(s): DEP Tank ID Number:					
Partial Storage Tank System Closure		☐	☐	☐	☐
Tank ☐ N/A	a. Removal	☐	☐	☐	☐
	b. Closure-in-Place	☐	☐	☐	☐
	c. Change-in-Service	☐	☐	☐	☐
Piping ☐ N/A	a. Removal	☐	☐	☐	☐
	b. Closure-in-Place	☐	☐	☐	☐
	c. Change-in-Service	☐	☐	☐	☐
Dispenser ☐ N/A	a. Removal	☐	☐	☐	☐
	b. Closure-in-Place	☐	☐	☐	☐
	c. Change-in-Service	☐	☐	☐	☐
Other _____	a. Removal	☐	☐	☐	☐
	b. Closure-in-Place	☐	☐	☐	☐
	c. Change-in-Service	☐	☐	☐	☐

Describe Closure Activities:

The tanks were drained via the in-place piping systems. Associated piping was also drained. Residual product was retained for use in other areas of the Former Philadelphia Refinery Complex. The interiors of tanks were cleaned. The tanks and piping were dismantled and removed from the site for disposal. When encountered, double bottoms were excavated and removed at a later date.

Yes **N/A**

11. Briefly describe the storage tank facility and the nature of the operations which were conducted at the facility (both historical and present) **including use of the storage tank systems:**

    Tank Group 04 was located in the east-central portion of the Former Philadelphia Refinery Complex. The tanks in the group held a variety of materials associated with the petroleum refining process.

☒ ☐ 12. A site location and sampling map of the site, drawn to scale, is attached. See page 11 of 11.

☒ ☐ 13. Original, color photographs of the closure process involving any excavation are attached (i.e., inside of excavation/piping runs, pit water, containment structure and foundation showing condition).

☒ ☐ 14. An amended "Storage Tanks Registration/Permitting Application" Form was submitted to the DEP, Bureau of Environmental Cleanup and Brownfields, Division of Storage Tanks, P.O. Box 8762, Harrisburg, PA 17105-8762.

Date: 5 / 20 / 2021

☒ ☐ 15. If a release was confirmed, the appropriate regional office of DEP was notified by the owner or operator.

Date: 8 / 10 / 2022 Office: Southeast

Yes **N/A**

☒ ☐ 16. If tanks were cleaned on-site:

a. Briefly describe the disposition of usable product: Usable product was drained from the tanks prior to cleaning. Any residual product was discharged to the on-site process sewer and wastewater treatment system.

b. Briefly describe the disposal of unusable product, sludges, sediments, and wastewater generated during cleaning. Provide the name and permit number of the processing, treatment, storage or disposal facility. (Attach documentation of proper disposal):
All sludges from Tank Group 04 were stabilized for transport and loaded into intermodal containers and then loaded onto rail cars. Each rail car was loaded with 6 intermodal containers of stabilized sludge, placarded, a BOL and way bill completed for each container and then transported by rail to Chemical Waste Management Inc at 7170 John Brannon Road, Sulphur, LA 70665. Remaining waste was discharged to the facility process sewer and wastewater treatment system.

c. If tank contents were determined/deemed to be hazardous waste, provide:

(1) Generator ID Number: PAD 04979109

(2) Licensed Hazardous Waste Transporter Name and ID Number: LA 0000777201, LA 000147272

☐ ☒ 17. If tanks were removed from the site for cleaning:

a. Provide the name and permit number of the processing, treatment, storage or disposal facility performing the tank cleaning:

b. If tank contents were determined/deemed to be hazardous waste, provide:

(1) Generator ID Number:

(2) Licensed Hazardous Waste Transporter Name and ID Number:

18. Briefly describe the disposition of tanks/piping (Attach documentation of proper disposal):
All tanks, associated piping were cleaned, demolished and recycled for scrap value.

☐ ☒ 19. If contaminated soil is excavated:

a. Briefly describe the disposition and amount _____ (tons) of contaminated soil. Provide the name and permit number of the processing, treatment, storage or disposal facility. (Attach documentation of proper disposal):

b. If contaminated soil is determined/deemed to be hazardous waste, provide:

(1) Generator ID Number: _____

(2) Licensed Hazardous Waste Transporter Name and ID Number: _____

_____

Yes	N/A		
☐	☒	20.	Briefly describe the disposition of and amount _____ (tons) of uncontaminated soil and debris (attach analyses):

_____

_____

_____

☐	☒	21.	If the tanks were "Closed-in-Place" provide information below:

a. Briefly describe the tank cleaning process: _____

_____

b. If subcontracted, name and address of company that performed the tank cleaning:

_____

c. How were tanks marked/labeled with permanent closure date: _____

_____

_____

I, Anne R. Garr, Assistant Secretary, hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating
(Print Name)
to unsworn falsification to authorities) that I am the owner of the above referenced storage tank system(s) and that the information provided by me in this closure report (Section I) is true, accurate and complete to the best of my knowledge and belief.

_____ 02 / 03 / 2023
Signature of Tank Owner Date

Philadelphia Energy Solutions Refining and Marketing LLC
Company Name
(If applicable)

Assistant Secretary
Title

Section I - Table 1
Description of Aboveground Storage Tank System

DATE OF TANK SYSTEM CLOSURE (Month/Day/Year)		1/8/2022	8/26/2021	11/23/2021	4/18/2022	3/4/2022	3/14/2022	2/3/2022	5/20/2021	11/24/2021	11/1/2021	9/23/2021	3/16/2022	1/20/2022
Description of Aboveground Storage Tank System		(Complete for each tank system undergoing closure)												
DEP Tank ID Number		011A	012A	040A	049A	053A	054A	055A	056A	057A	058A	059A	086A	088A
Total Capacity (Gallons)		8,568,000	13,158,600	634,200	8,568,000	5,758,200	5,758,200	6,346,200	8,421,000	8,568,000	13,158,600	13,158,600	6,346,200	5,640,852
Substance(s) Stored Throughout Operating Life of Tank System (Check All That Apply)	**a. Petroleum**													
	Unleaded Gasoline													
	Leaded Gasoline													
	Aviation Gasoline													
	Pure Ethanol													
	Blended Ethanol _____%													
	Kerosene													
	Jet Fuel													
	Diesel Fuel													
	Biodiesel _____%													
	Fuel Oil No. 1													
	Fuel Oil No. 2													
	Fuel Oil No. 4													
	Fuel Oil No. 5													
	Fuel Oil No. 6													
	New Motor Oil													
	Used Motor Oil													
	Nonpetroleum Oil, Specify													
	Other, Specify	Crude Oil	Crude Oil	Recovered Oil	Crude Oil	Crude Oil	Crude Oil	Crude Oil	Crude Oil	Crude Oil	Crude Oil	Crude Oil	Crude Oil	Light Cycle Oil
NOTE: If Hazardous Substance Block is Attach Safety Data Sheets (SDS)	**b. Hazardous Substance**													
	Name of Principal CERCLA Substance													
	AND													
	Chemical Abstract Service (CAS) No.													
	c. Unknown													
CLOSURE METHOD(s):	DEP Tank ID Number:	011A	012A	040A	049A	053A	054A	055A	056A	057A	058A	059A	086A	088A
Partial Storage Tank System Closure														
Tank ☐ N/A	a. Removal	X	X	X	X	X	X	X	X	X	X	X	X	X
	b. Closure-in-Place													
	c. Change-in-Service													
Piping ☐ N/A	a. Removal	X	X	X	X	X	X	X	X	X	X	X	X	X
	b. Closure-in-Place													
	c. Change-in-Service													
Dispenser ☑ N/A	a. Removal													
	b. Closure-in-Place													
	c. Change-in-Service													
Other _____	a. Removal													
	b. Closure-in-Place													
	c. Change-in-Service													

ABOVEGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

SECTION II. Tank Handling Information

Facility ID Number 51 - 33620
DEP Tank ID Number(s) 011A, 049A 053A, 054A, 055A, 086A, 088A,

Yes	N/A		
		1.	Briefly describe the excavation and initial on-site staging of uncontaminated/contaminated soil and debris: N/A
		2.	Briefly describe the method of piping system closure and the closure of the piping systems including the quantity and condition of the piping:
		3.	Briefly describe the condition of the tanks and any problems encountered during tank handling or tank removal activities:
		4.	Briefly describe the method used to purge the tanks of and monitor for hazardous or explosive vapors:
☒	☐	5.	If tanks were cleaned on-site: a. Briefly describe the tank cleaning process: The Tanks were drained, washed and rinsed of any residuals, then demolioshed and the scrap metal sent off site for recycling. b. If subcontracted, name and address of company that performed the tank cleaning: ACV Enviro - 2527 Market Street, Aston , PA 19014 www.acvenviro.com
☐	☒	6.	If tanks were "Closed-in-Place", briefly describe how tanks were rendered inoperative, marked permanently closed with date, vented and secured to prevent unauthorized entry:
☐	☒	7.	If contamination was suspected or observed, the "Notification of Contamination" form was submitted.

I, Brian Gerner (Print Name), hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating to unsworn falsification to authorities) that I am the certified remover who performed the tank handling activities associated with the closure of the above referenced storage tank(s) and that the information provided by me in this closure report (Section I) is true, accurate and complete to the best of my knowledge and belief.

Signature of Certified Remover

12 / 15 / 2022
Date

5341
Remover Certification Number

1631
Company Certification Number

AST Construction, Inc.
Company Name

5 Canale Drive
Street

Egg Harbor Township, NJ 08234
City/Town, State, Zip

(609) 277-7101
Phone

ABOVEGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

SECTION II. Tank Handling Information

Facility ID Number 51 - 33620
DEP Tank ID Number(s) 012A, 040A, 056A, 057A, 058A, 059A

Yes N/A

1. Briefly describe the excavation and initial on-site staging of uncontaminated/contaminated soil and debris:

   Removed tank and piping debris was segregated and loaded into roll-off containters during demolition.

2. Briefly describe the method of piping system closure and the closure of the piping systems including the quantity and condition of the piping:

3. Briefly describe the condition of the tanks and any problems encountered during tank handling or tank removal activities:

4. Briefly describe the method used to purge the tanks of and monitor for hazardous or explosive vapors:

☒ ☐ 5. If tanks were cleaned on-site:

   a. Briefly describe the tank cleaning process: Tanks were drained, cut open, rinsed and scrubbed clean of any residuals before demolition.

   b. If subcontracted, name and address of company that performed the tank cleaning:

      NorthStar Contracting Group, Inc., 2250 East Adams Avenue, Philadelphia, PA 19124

☐ ☒ 6. If tanks were “Closed-in-Place”, briefly describe how tanks were rendered inoperative, marked permanently closed with date, vented and secured to prevent unauthorized entry:

☐ ☒ 7. If contamination was suspected or observed, the “Notification of Contamination” form was submitted.

I, KRISTIAN SATTERTHWAITE, hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating to
(Print Name)
unsworn falsification to authorities) that I am the certified remover who performed the tank handling activities associated with the closure of the above referenced storage tank(s) and that the information provided by me in this closure report (Section I) is true, accurate and complete to the best of my knowledge and belief.

Kristian Satterthwaite
Signature of Certified Remover

1 / 27 / 2023
Date

5081
Remover Certification Number

1557
Company Certification Number

JD2 ENVIRONMENTAL, INC.
Company Name

820 E. WASHINGTON STREET
Street

WEST CHESTER, PA 19380
City/Town, State, Zip

(610) 430-8151
Phone

ABOVEGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

SECTION III. Site Assessment Information

Tank Registration # 040A (complete one sheet for EACH tank system and attach ALL laboratory sheets pertaining to that system)

Facility ID Number 51 - 33620

A. Provide depth of *BEDROCK* and *WATER* IF encountered during excavation or soil boring (write "N/A": if NOT encountered).

Bedrock N/A feet below land surface Water 15 feet below land surface

B. Provide Length of *PIPING* IF piping was closed-in-place (write "N/A" if NOT closed-in-place).

Length of piping N/A feet

C. TANK SYSTEM REMOVED FROM THE GROUND/SITE

1). Was obvious contamination observed while excavating, sampling or removing the tank system?

☒ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records ----→ Do not complete item C.2. below.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

---→ Complete item C.2. below.

2). Was contamination localized (within three feet of the tank system in every direction with no obvious water contamination)?

☐ YES ----→ Remove or remediate contaminated soil ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ NO ----→ Continue Interim Remedial Actions ----→ See end of this section for options on submission and maintenance of closure records.

D. TANK SYSTEM CLOSED-IN-PLACE OR CHANGED-IN-SERVICE

Was obvious contamination observed during sampling, boring or assessing water depths?

☐ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

Continue with corrective action ----→ See end of this section for options on submission and maintenance of closure records.

E. If the answer to C.1. is "no", the answer to C.2. is "yes" or the answer to D. is "no", confirmatory samples are required. Use the sample/analysis information sheet on page 10 of 11 to provide the information on confirmatory sampling and complete the diagram on Page 11 of 11.

Options for Submission and Maintenance of Closure Site Assessment Records

Records of the site assessment must be maintained for at least three years after completion of permanent closure or change-in-service in one of the following ways:

(a) By the owners and operators who took the tank system out of service;
(b) By the current owners and operators of the tank system site; or
(c) By mailing these records to the DEP regional office responsible for the county in which the tank is located if they cannot be maintained at the closed facility.

Where the results of the site assessment indicate that obvious, localized soil contamination was encountered and the analytical results of the confirmatory sampling show levels below the statewide standard/action levels, this closure report form (Sections I, II, and III) or some other acceptable site characterization report must be received by the Department within 180 days of verbally reporting the release.

Where the results of the site assessment indicate that no obvious contamination or obvious, localized contamination was encountered, but the analytical results of the confirmatory sampling show levels above the statewide standard/action levels, or where there is obvious, extensive contamination, Section 245.310(a)(8) of the Corrective Action Process (CAP) regulations requires that details of removal from service be included in the site characterization report. A copy of the completed closure report form should be submitted as part of the site characterization report to satisfy the requirements of Section 245.310(a)(8) of the CAP regulations.

I, Kevin Long , hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating to unsworn
(Print Name)
falsification to authorities) that I am the person who performed the site assessment activities associated with the closure of the above referenced storage tank system(s) and that the information provided by me in this closure report (Section III) is true, accurate and complete to the best of my knowledge and belief.

Kevin L. Long
Signature of Person Performing Site Assessment

2 / 1 / 2023
Date

Principal Consultant
Title of Person Performing Site Assessment

Terraphase Engineering, Inc.
Name of Company Performing Site Assessment

609-236-8171 x93
Telephone Number of Person Performing Site Assessment

ABOVEGROUND STORAGE TANK SYSTEM
CLOSURE REPORT FORM

Sample/Analysis Information
(Attachment for Section III.)

Facility ID Number 51 - 33620

Sample I.D. (See diagram)	Parameter	Analytical Method[1]		Media	Result (units)	Detection Limit (units)	Date Sample Taken	Date Sample Analyzed
See attached summary table							/ /	/ /
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[1] Where EPA Method 5035 is used, indicate sample collection option in the right-hand box of this column using the following codes:

P - Samples placed in a soil sample vial with a preservative present.
E - Samples collected and stored in a soil collection device which is airtight and affords little to no headspace.

N - Samples placed in soil sample vial without a preservative present.

Site Location and Sampling Map - Use this page or suitable facsimile to provide a large-scale map of the site where storage tank systems were closed. Scales between 1" = 10 and 1" = 100 feet frequently work well. Include the following information as each applies to the site: facility name and I.D., county, township or borough, property boundaries or area of interest, buildings, roads and streets with names or route numbers, utilities, location and ID number of storage tank systems removed including piping and dispensers, soil stockpile locations, excavations or other locations of product recovery, north arrow, approximate map scale and legend. Also, show depth and location of samples with sample ID numbers cross-referenced to the same ID numbers shown on Page 10 of 11.

Facility Name and ID: -

County:

Township/Borough: See attached Figure

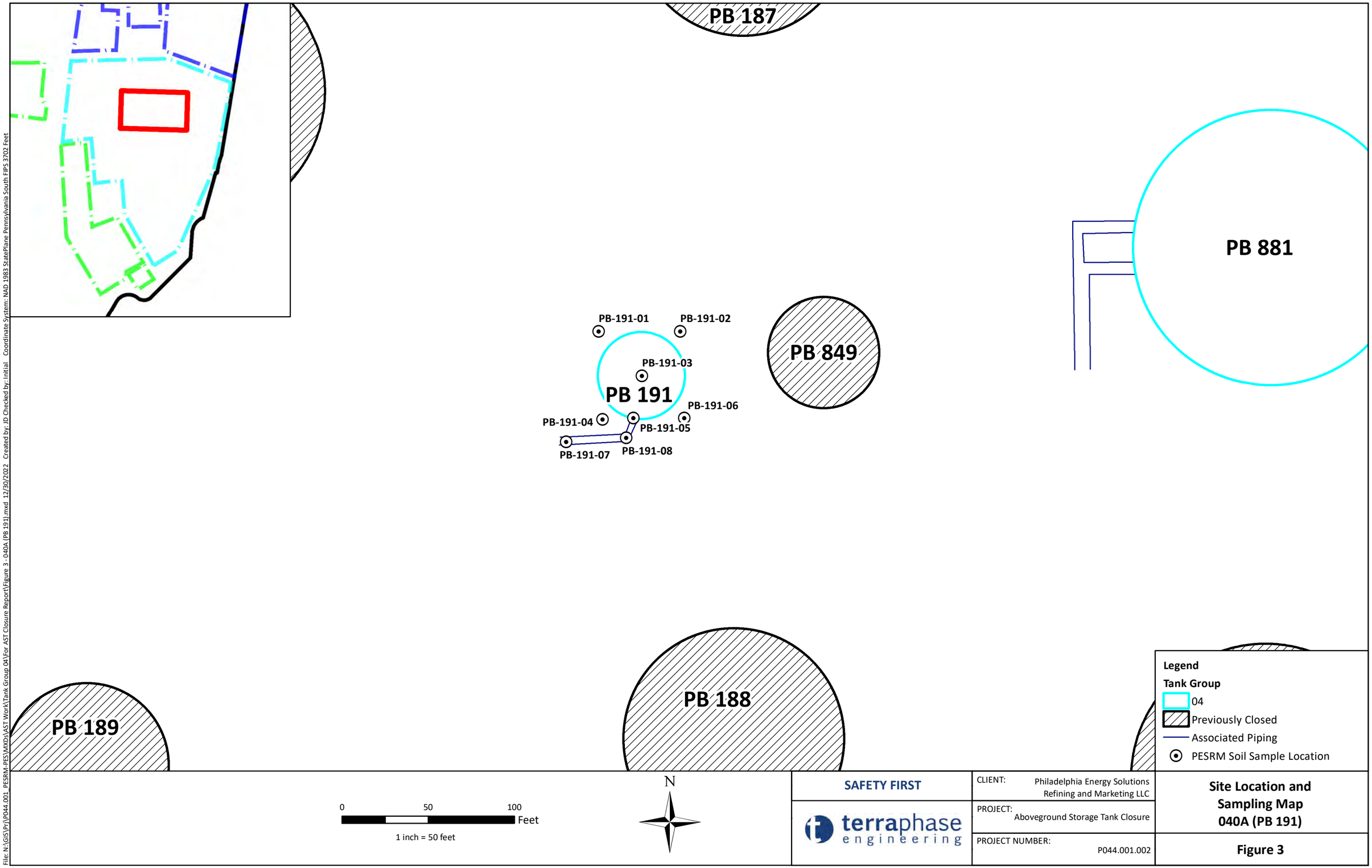
Table 3 - 040A (PB 191)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-191-01	PB-191-01-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.088	0.16	12/9/2021	12/21/2021
PB-191-01	PB-191-01-SS01	4	4.5	Lead	SW6010D	Soil	110	2.34	12/9/2021	12/23/2021
PB-191-01	PB-191-01-SS01	4	4.5	Pyrene	SW8270D	Soil	0.22	0.12	12/9/2021	12/21/2021
PB-191-01	PB-191-01-SS01	4	4.5	Phenanthrene	SW8270D	Soil	0.11	0.12	12/9/2021	12/21/2021
PB-191-01	PB-191-01-SS01	4	4.5	Naphthalene	SW8270D	Soil	0.039	0.2	12/9/2021	12/21/2021
PB-191-01	PB-191-01-SS01	4	4.5	Indeno(1,2,3-cd)pyrene	SW8270D	Soil	0.1	0.16	12/9/2021	12/21/2021
PB-191-01	PB-191-01-SS01	4	4.5	Chrysene	SW8270D	Soil	0.16	0.12	12/9/2021	12/21/2021
PB-191-01	PB-191-01-SS01	4	4.5	Benzo(b)fluoranthene	SW8270D	Soil	0.19	0.12	12/9/2021	12/21/2021
PB-191-01	PB-191-01-SS01	4	4.5	Benzo(a)pyrene	SW8270D	Soil	0.15	0.16	12/9/2021	12/21/2021
PB-191-01	PB-191-01-SS01	4	4.5	Benzo(a)anthracene	SW8270D	Soil	0.17	0.12	12/9/2021	12/21/2021
PB-191-01	PB-191-01-SS01	4	4.5	Anthracene	SW8270D	Soil	ND	0.12	12/9/2021	12/21/2021
PB-191-01	PB-191-01-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00073	12/9/2021	12/20/2021
PB-191-01	PB-191-01-SS01	4	4.5	Fluorene	SW8270D	Soil	ND	0.2	12/9/2021	12/21/2021
PB-191-01	PB-191-01-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0029	12/9/2021	12/20/2021
PB-191-01	PB-191-01-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	ND	0.0029	12/9/2021	12/20/2021
PB-191-01	PB-191-01-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0014	12/9/2021	12/20/2021
PB-191-01	PB-191-01-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0029	12/9/2021	12/20/2021
PB-191-01	PB-191-01-SS01	4	4.5	Benzene	SW8260C	Soil	ND	0.00073	12/9/2021	12/20/2021
PB-191-01	PB-191-01-SS01	4	4.5	Cumene	SW8260C	Soil	ND	0.0014	12/9/2021	12/20/2021
PB-191-01	PB-191-01-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	ND	0.0014	12/9/2021	12/20/2021
PB-191-01	PB-191-01-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0029	12/9/2021	12/20/2021
PB-191-01	PB-191-01-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.0014	12/9/2021	12/20/2021
PB-191-02	PB-191-02-SS01	3.5	4	Benzo(a)anthracene	SW8270D	Soil	0.077	0.12	12/9/2021	12/21/2021
PB-191-02	PB-191-02-SS01	3.5	4	1,3,5-Trimethylbenzene	SW8260C	Soil	0.00054	0.0049	12/9/2021	12/20/2021
PB-191-02	PB-191-02-SS01	3.5	4	Phenanthrene	SW8270D	Soil	0.092	0.12	12/9/2021	12/21/2021
PB-191-02	PB-191-02-SS01	3.5	4	Naphthalene	SW8270D	Soil	0.063	0.21	12/9/2021	12/21/2021
PB-191-02	PB-191-02-SS01	3.5	4	Indeno(1,2,3-cd)pyrene	SW8270D	Soil	0.055	0.16	12/9/2021	12/21/2021
PB-191-02	PB-191-02-SS01	3.5	4	Fluorene	SW8270D	Soil	ND	0.21	12/9/2021	12/21/2021
PB-191-02	PB-191-02-SS01	3.5	4	Chrysene	SW8270D	Soil	0.08	0.12	12/9/2021	12/21/2021
PB-191-02	PB-191-02-SS01	3.5	4	Benzo(g,h,i)perylene	SW8270D	Soil	0.062	0.16	12/9/2021	12/21/2021
PB-191-02	PB-191-02-SS01	3.5	4	Benzo(b)fluoranthene	SW8270D	Soil	0.089	0.12	12/9/2021	12/21/2021
PB-191-02	PB-191-02-SS01	3.5	4	Benzo(a)pyrene	SW8270D	Soil	0.071	0.16	12/9/2021	12/21/2021
PB-191-02	PB-191-02-SS01	3.5	4	Pyrene	SW8270D	Soil	0.1	0.12	12/9/2021	12/21/2021
PB-191-02	PB-191-02-SS01	3.5	4	1,2,4-Trimethylbenzene	SW8260C	Soil	0.0013	0.0049	12/9/2021	12/20/2021
PB-191-02	PB-191-02-SS01	3.5	4	Cumene	SW8260C	Soil	0.0022	0.0024	12/9/2021	12/20/2021
PB-191-02	PB-191-02-SS01	3.5	4	Lead	SW6010D	Soil	46.8	2.36	12/9/2021	12/23/2021
PB-191-02	PB-191-02-SS01	3.5	4	Anthracene	SW8270D	Soil	ND	0.12	12/9/2021	12/21/2021
PB-191-02	PB-191-02-SS01	3.5	4	1,2-Dibromoethane	SW8260C	Soil	ND	0.0012	12/9/2021	12/20/2021
PB-191-02	PB-191-02-SS01	3.5	4	1,2-Dichloroethane	SW8260C	Soil	ND	0.0024	12/9/2021	12/20/2021
PB-191-02	PB-191-02-SS01	3.5	4	Ethyl Benzene	SW8260C	Soil	0.0012	0.0024	12/9/2021	12/20/2021
PB-191-02	PB-191-02-SS01	3.5	4	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0049	12/9/2021	12/20/2021
PB-191-02	PB-191-02-SS01	3.5	4	Toluene	SW8260C	Soil	0.0015	0.0024	12/9/2021	12/20/2021
PB-191-02	PB-191-02-SS01	3.5	4	Xylenes (total)	SW8260C	Soil	0.0047	0.0049	12/9/2021	12/20/2021
PB-191-02	PB-191-02-SS01	3.5	4	Benzene	SW8260C	Soil	0.0094	0.0012	12/9/2021	12/20/2021
PB-191-03	PB-191-03-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/15/2022	7/18/2022
PB-191-03	PB-191-03-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	0.12	0.17	7/15/2022	7/18/2022
PB-191-03	PB-191-03-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.13	0.12	7/15/2022	7/18/2022
PB-191-03	PB-191-03-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.06	0.17	7/15/2022	7/18/2022
PB-191-03	PB-191-03-SS01	3	3.5	Chrysene	SW8270D	Soil	0.1	0.12	7/15/2022	7/18/2022
PB-191-03	PB-191-03-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.21	7/15/2022	7/18/2022
PB-191-03	PB-191-03-SS01	3	3.5	Pyrene	SW8270D	Soil	0.16	0.12	7/15/2022	7/18/2022
PB-191-03	PB-191-03-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.21	7/15/2022	7/18/2022
PB-191-03	PB-191-03-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.11	0.12	7/15/2022	7/18/2022
PB-191-03	PB-191-03-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0026	7/15/2022	7/20/2022
PB-191-03	PB-191-03-SS01	3	3.5	Indeno(1,2,3-cd)pyrene	SW8270D	Soil	0.07	0.17	7/15/2022	7/18/2022
PB-191-03	PB-191-03-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0026	7/15/2022	7/20/2022
PB-191-03	PB-191-03-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0026	7/15/2022	7/20/2022
PB-191-03	PB-191-03-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0013	7/15/2022	7/20/2022
PB-191-03	PB-191-03-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0026	7/15/2022	7/20/2022
PB-191-03	PB-191-03-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0013	7/15/2022	7/20/2022
PB-191-03	PB-191-03-SS01	3	3.5	Lead	SW6010D	Soil	19.8	2.41	7/15/2022	7/18/2022
PB-191-03	PB-191-03-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00066	7/15/2022	7/20/2022
PB-191-03	PB-191-03-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0013	7/15/2022	7/20/2022
PB-191-03	PB-191-03-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00066	7/15/2022	7/20/2022
PB-191-03	PB-191-03-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0013	7/15/2022	7/20/2022
PB-191-03	PB-191-03-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/15/2022	7/18/2022
PB-191-04	PB-191-04-SS01	1.5	2	Anthracene	SW8270D	Soil	0.049	0.13	12/9/2021	12/21/2021
PB-191-04	PB-191-04-SS01	1.5	2	Benzo(a)pyrene	SW8270D	Soil	0.076	0.18	12/9/2021	12/21/2021
PB-191-04	PB-191-04-SS01	1.5	2	Benzo(b)fluoranthene	SW8270D	Soil	0.099	0.13	12/9/2021	12/21/2021
PB-191-04	PB-191-04-SS01	1.5	2	Benzo(g,h,i)perylene	SW8270D	Soil	0.056	0.18	12/9/2021	12/21/2021
PB-191-04	PB-191-04-SS01	1.5	2	Chrysene	SW8270D	Soil	0.095	0.13	12/9/2021	12/21/2021
PB-191-04	PB-191-04-SS01	1.5	2	Fluorene	SW8270D	Soil	0.054	0.22	12/9/2021	12/21/2021
PB-191-04	PB-191-04-SS01	1.5	2	Indeno(1,2,3-cd)pyrene	SW8270D	Soil	0.056	0.18	12/9/2021	12/21/2021
PB-191-04	PB-191-04-SS01	1.5	2	Phenanthrene	SW8270D	Soil	0.19	0.13	12/9/2021	12/21/2021
PB-191-04	PB-191-04-SS01	1.5	2	Xylenes (total)	SW8260C	Soil	0.0032	0.0026	12/9/2021	12/21/2021
PB-191-04	PB-191-04-SS01	1.5	2	Pyrene	SW8270D	Soil	0.14	0.13	12/9/2021	12/21/2021
PB-191-04	PB-191-04-SS01	1.5	2	Naphthalene	SW8270D	Soil	0.1	0.22	12/9/2021	12/21/2021
PB-191-04	PB-191-04-SS01	1.5	2	1,2-Dibromoethane	SW8260C	Soil	ND	0.00065	12/9/2021	12/19/2021
PB-191-04	PB-191-04-SS01	1.5	2	Benzo(a)anthracene	SW8270D	Soil	0.095	0.13	12/9/2021	12/21/2021
PB-191-04	PB-191-04-SS01	1.5	2	Toluene	SW8260C	Soil	ND	0.0013	12/9/2021	12/19/2021
PB-191-04	PB-191-04-SS01	1.5	2	1,2,4-Trimethylbenzene	SW8260C	Soil	0.0023	0.0026	12/9/2021	12/19/2021
PB-191-04	PB-191-04-SS01	1.5	2	1,2-Dichloroethane	SW8260C	Soil	ND	0.0013	12/9/2021	12/19/2021
PB-191-04	PB-191-04-SS01	1.5	2	1,3,5-Trimethylbenzene	SW8260C	Soil	0.0013	0.0026	12/9/2021	12/19/2021
PB-191-04	PB-191-04-SS01	1.5	2	Benzene	SW8260C	Soil	0.0012	0.00065	12/9/2021	12/19/2021
PB-191-04	PB-191-04-SS01	1.5	2	Cumene	SW8260C	Soil	0.0015	0.0013	12/9/2021	12/19/2021
PB-191-04	PB-191-04-SS01	1.5	2	Ethyl Benzene	SW8260C	Soil	0.001	0.0013	12/9/2021	12/19/2021
PB-191-04	PB-191-04-SS01	1.5	2	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0026	12/9/2021	12/19/2021
PB-191-04	PB-191-04-SS01	1.5	2	Lead	SW6010D	Soil	295	2.62	12/9/2021	12/23/2021
PB-191-05	PB-191-05-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0023	12/9/2021	12/19/2021
PB-191-05	PB-191-05-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	12/9/2021	12/21/2021
PB-191-05	PB-191-05-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	12/9/2021	12/21/2021
PB-191-05	PB-191-05-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	12/9/2021	12/21/2021
PB-191-05	PB-191-05-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	12/9/2021	12/21/2021
PB-191-05	PB-191-05-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	12/9/2021	12/21/2021
PB-191-05	PB-191-05-SS01	3	3.5	Indeno(1,2,3-cd)pyrene	SW8270D	Soil	ND	0.14	12/9/2021	12/21/2021
PB-191-05	PB-191-05-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	12/9/2021	12/21/2021
PB-191-05	PB-191-05-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	12/9/2021	12/21/2021
PB-191-05	PB-191-05-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	12/9/2021	12/21/2021
PB-191-05	PB-191-05-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	12/9/2021	12/21/2021
PB-191-05	PB-191-05-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0023	12/9/2021	12/19/2021
PB-191-05	PB-191-05-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0023	12/9/2021	12/19/2021
PB-191-05	PB-191-05-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	12/9/2021	12/19/2021
PB-191-05	PB-191-05-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0023	12/9/2021	12/19/2021
PB-191-05	PB-191-05-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	12/9/2021	12/19/2021
PB-191-05	PB-191-05-SS01	3	3.5	Lead	SW6010D	Soil	12.8	10.5	12/9/2021	12/27/2021
PB-191-05	PB-191-05-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00058	12/9/2021	12/19/2021

Table 3 - 040A (PB 191)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-191-05	PB-191-05-SS01	3	3.5	Cumene	SW8260C	Soil	0.00027	0.0012	12/9/2021	12/19/2021
PB-191-05	PB-191-05-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	12/9/2021	12/19/2021
PB-191-05	PB-191-05-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00058	12/9/2021	12/19/2021
PB-191-05	PB-191-05-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	12/9/2021	12/21/2021
PB-191-06	PB-191-06-SS01	0.5	1	Benzo(a)pyrene	SW8270D	Soil	ND	0.8	12/9/2021	12/23/2021
PB-191-06	PB-191-06-SS01	0.5	1	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.6	12/9/2021	12/23/2021
PB-191-06	PB-191-06-SS01	0.5	1	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.8	12/9/2021	12/23/2021
PB-191-06	PB-191-06-SS01	0.5	1	Chrysene	SW8270D	Soil	ND	0.6	12/9/2021	12/23/2021
PB-191-06	PB-191-06-SS01	0.5	1	Fluorene	SW8270D	Soil	ND	1	12/9/2021	12/23/2021
PB-191-06	PB-191-06-SS01	0.5	1	Indeno(1,2,3-cd)pyrene	SW8270D	Soil	ND	0.8	12/9/2021	12/23/2021
PB-191-06	PB-191-06-SS01	0.5	1	Naphthalene	SW8270D	Soil	ND	1	12/9/2021	12/23/2021
PB-191-06	PB-191-06-SS01	0.5	1	Anthracene	SW8270D	Soil	ND	0.6	12/9/2021	12/23/2021
PB-191-06	PB-191-06-SS01	0.5	1	Pyrene	SW8270D	Soil	ND	0.6	12/9/2021	12/23/2021
PB-191-06	PB-191-06-SS01	0.5	1	Xylenes (total)	SW8260C	Soil	ND	0.0023	12/9/2021	12/23/2021
PB-191-06	PB-191-06-SS01	0.5	1	Phenanthrene	SW8270D	Soil	ND	0.6	12/9/2021	12/23/2021
PB-191-06	PB-191-06-SS01	0.5	1	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	12/9/2021	12/20/2021
PB-191-06	PB-191-06-SS01	0.5	1	Benzo(a)anthracene	SW8270D	Soil	ND	0.6	12/9/2021	12/23/2021
PB-191-06	PB-191-06-SS01	0.5	1	1,2-Dibromoethane	SW8260C	Soil	ND	0.00057	12/9/2021	12/20/2021
PB-191-06	PB-191-06-SS01	0.5	1	Lead	SW6010D	Soil	26.5	2.38	12/9/2021	12/23/2021
PB-191-06	PB-191-06-SS01	0.5	1	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0023	12/9/2021	12/20/2021
PB-191-06	PB-191-06-SS01	0.5	1	Benzene	SW8260C	Soil	ND	0.00057	12/9/2021	12/20/2021
PB-191-06	PB-191-06-SS01	0.5	1	Cumene	SW8260C	Soil	0.0036	0.0011	12/9/2021	12/20/2021
PB-191-06	PB-191-06-SS01	0.5	1	Ethyl Benzene	SW8260C	Soil	ND	0.0011	12/9/2021	12/20/2021
PB-191-06	PB-191-06-SS01	0.5	1	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0023	12/9/2021	12/20/2021
PB-191-06	PB-191-06-SS01	0.5	1	Toluene	SW8260C	Soil	ND	0.0011	12/9/2021	12/20/2021
PB-191-06	PB-191-06-SS01	0.5	1	1,2,4-Trimethylbenzene	SW8260C	Soil	0.00046	0.0023	12/9/2021	12/20/2021
PB-191-07	DUP-25	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	12/9/2021	12/21/2021
PB-191-07	DUP-25	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	12/9/2021	12/21/2021
PB-191-07	DUP-25	4.5	5	Pyrene	SW8270D	Soil	0.021	0.12	12/9/2021	12/21/2021
PB-191-07	DUP-25	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/9/2021	12/21/2021
PB-191-07	DUP-25	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/9/2021	12/21/2021
PB-191-07	DUP-25	4.5	5	Chrysene	SW8270D	Soil	ND	0.12	12/9/2021	12/21/2021
PB-191-07	DUP-25	4.5	5	Fluorene	SW8270D	Soil	0.044	0.2	12/9/2021	12/21/2021
PB-191-07	DUP-25	4.5	5	Indeno(1,2,3-cd)pyrene	SW8270D	Soil	ND	0.16	12/9/2021	12/21/2021
PB-191-07	DUP-25	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.12	12/9/2021	12/21/2021
PB-191-07	DUP-25	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.0028	12/9/2021	12/21/2021
PB-191-07	DUP-25	4.5	5	Naphthalene	SW8270D	Soil	ND	0.2	12/9/2021	12/21/2021
PB-191-07	DUP-25	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00071	12/9/2021	12/20/2021
PB-191-07	DUP-25	4.5	5	Toluene	SW8260C	Soil	ND	0.0014	12/9/2021	12/20/2021
PB-191-07	DUP-25	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/9/2021	12/21/2021
PB-191-07	DUP-25	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0028	12/9/2021	12/20/2021
PB-191-07	DUP-25	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0014	12/9/2021	12/20/2021
PB-191-07	DUP-25	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0028	12/9/2021	12/20/2021
PB-191-07	DUP-25	4.5	5	Benzene	SW8260C	Soil	ND	0.00071	12/9/2021	12/20/2021
PB-191-07	DUP-25	4.5	5	Cumene	SW8260C	Soil	0.0082	0.0014	12/9/2021	12/20/2021
PB-191-07	DUP-25	4.5	5	Ethyl Benzene	SW8260C	Soil	ND	0.0014	12/9/2021	12/20/2021
PB-191-07	DUP-25	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0028	12/9/2021	12/20/2021
PB-191-07	DUP-25	4.5	5	Lead	SW6010D	Soil	218	4.72	12/9/2021	12/27/2021
PB-191-07	PB-191-07-SS01	4.5	5	Pyrene	SW8270D	Soil	0.44	0.12	12/9/2021	12/21/2021
PB-191-07	PB-191-07-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	0.19	0.16	12/9/2021	12/21/2021
PB-191-07	PB-191-07-SS01	4.5	5	Anthracene	SW8270D	Soil	0.16	0.12	12/9/2021	12/21/2021
PB-191-07	PB-191-07-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	0.18	0.16	12/9/2021	12/21/2021
PB-191-07	PB-191-07-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	0.17	0.12	12/9/2021	12/21/2021
PB-191-07	PB-191-07-SS01	4.5	5	Chrysene	SW8270D	Soil	0.26	0.12	12/9/2021	12/21/2021
PB-191-07	PB-191-07-SS01	4.5	5	Fluorene	SW8270D	Soil	0.061	0.2	12/9/2021	12/21/2021
PB-191-07	PB-191-07-SS01	4.5	5	Indeno(1,2,3-cd)pyrene	SW8270D	Soil	0.11	0.16	12/9/2021	12/21/2021
PB-191-07	PB-191-07-SS01	4.5	5	Phenanthrene	SW8270D	Soil	0.77	0.12	12/9/2021	12/21/2021
PB-191-07	PB-191-07-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.0043	12/9/2021	12/21/2021
PB-191-07	PB-191-07-SS01	4.5	5	Naphthalene	SW8270D	Soil	0.23	0.2	12/9/2021	12/21/2021
PB-191-07	PB-191-07-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0011	12/9/2021	12/20/2021
PB-191-07	PB-191-07-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	0.21	0.12	12/9/2021	12/21/2021
PB-191-07	PB-191-07-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.0022	12/9/2021	12/20/2021
PB-191-07	PB-191-07-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0043	12/9/2021	12/20/2021
PB-191-07	PB-191-07-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0022	12/9/2021	12/20/2021
PB-191-07	PB-191-07-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0043	12/9/2021	12/20/2021
PB-191-07	PB-191-07-SS01	4.5	5	Benzene	SW8260C	Soil	ND	0.0011	12/9/2021	12/20/2021
PB-191-07	PB-191-07-SS01	4.5	5	Cumene	SW8260C	Soil	ND	0.0022	12/9/2021	12/20/2021
PB-191-07	PB-191-07-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	ND	0.0022	12/9/2021	12/20/2021
PB-191-07	PB-191-07-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0043	12/9/2021	12/20/2021
PB-191-07	PB-191-07-SS01	4.5	5	Lead	SW6010D	Soil	176	4.59	12/9/2021	12/27/2021
PB-191-08	PB-191-08-SS01	4.5	5	Lead	SW6010D	Soil	84.5	2.3	12/9/2021	12/23/2021
PB-191-08	PB-191-08-SS01	4.5	5	Chrysene	SW8270D	Soil	0.052	0.12	12/9/2021	12/21/2021
PB-191-08	PB-191-08-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/9/2021	12/21/2021
PB-191-08	PB-191-08-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	0.054	0.12	12/9/2021	12/21/2021
PB-191-08	PB-191-08-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	0.043	0.16	12/9/2021	12/21/2021
PB-191-08	PB-191-08-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.19	12/9/2021	12/21/2021
PB-191-08	PB-191-08-SS01	4.5	5	Indeno(1,2,3-cd)pyrene	SW8270D	Soil	0.031	0.16	12/9/2021	12/21/2021
PB-191-08	PB-191-08-SS01	4.5	5	Naphthalene	SW8270D	Soil	0.059	0.19	12/9/2021	12/21/2021
PB-191-08	PB-191-08-SS01	4.5	5	Phenanthrene	SW8270D	Soil	0.084	0.12	12/9/2021	12/21/2021
PB-191-08	PB-191-08-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	0.047	0.12	12/9/2021	12/21/2021
PB-191-08	PB-191-08-SS01	4.5	5	Pyrene	SW8270D	Soil	0.07	0.12	12/9/2021	12/21/2021
PB-191-08	PB-191-08-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00057	12/9/2021	12/20/2021
PB-191-08	PB-191-08-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	12/9/2021	12/21/2021
PB-191-08	PB-191-08-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.0031	0.0023	12/9/2021	12/20/2021
PB-191-08	PB-191-08-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	12/9/2021	12/20/2021
PB-191-08	PB-191-08-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.00066	0.0023	12/9/2021	12/20/2021
PB-191-08	PB-191-08-SS01	4.5	5	Benzene	SW8260C	Soil	0.0003	0.00057	12/9/2021	12/20/2021
PB-191-08	PB-191-08-SS01	4.5	5	Cumene	SW8260C	Soil	0.003	0.0011	12/9/2021	12/20/2021
PB-191-08	PB-191-08-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	0.00021	0.0011	12/9/2021	12/20/2021
PB-191-08	PB-191-08-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0023	12/9/2021	12/20/2021
PB-191-08	PB-191-08-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.0011	12/9/2021	12/20/2021
PB-191-08	PB-191-08-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	0.00285	0.0023	12/9/2021	12/20/2021

Notes:
SS -- Soil Sample.
DUP-25 is a field duplicate associated with sample PB-191-07-SS01.



File: N:\GIS\Pr\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For AST Closure Report\Figure 3 - 040A (PB 191).mxd 12/30/2022 Created by: JD Checked by: Initial Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

SAFETY FIRST

terraphase engineering

CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

Site Location and Sampling Map 040A (PB 191)

Figure 3

Photograph 1:

View of Tank 040A (PB 191) during demolition.

Photograph 2:

View of scrap piles and Tank 040A (PB 191) following demolition.

Photograph 3:

View of scrap piles and Tank 040A (PB 191) following demolition.

Photograph 4:

View of the concrete pad following demolition.

Photograph 5:

View of vicinity soil following demolition.

Product Movement and Waste Disposal Documentation (Tank 040A)

NorthStar Contracting Group, Inc.

PES Project Load Ticket

Load Ticket: 17916

Date: 11-17-21

Scrap

Sold to: Allghany

Location: Tank 191

Carrier: Allghany

Steel / Ferrous

- ☐ No. 1 P+S
- ☐ No. 2 Heavy Melt
- ☐ Cast Iron
- ☐ Mixed
- ☐ Pipe
- ☐ Light Iron
- ☐ Re-Bar
- ☐ Other Tank Plate

Non-Ferrous

- ☐ Insulated Copper Wire
- ☐ No. 1 Copper Wire
- ☐ Brass
- ☐ Aluminum
- ☐ Stainless, Grade_____
- ☐ Other Alloy, Grade_____
- ☐ Mixed
- ☐ Other: _____

Condition

- ☐ Prepared
- ☐ Unprepared
- ☐ Green Waste
- ☐ Concrete
- ☐ Masonry
- ☐ Mixed Masonry
- ☐ Wood Only
- ☐ Demo Debris (C&D)
- ☐ Dirt / Fill
- ☐ Sand Fill
- ☐ Crushed Stone
- ☐ Other:_____

Scale Ticket #:_____

Gross Weight: 58500 lbs

Tare Weight: 40000 lbs

Net Weight: 18500 lbs

NorthStar Rep. Signature: _____

Received By: _____

Non-Haz / ACM / Special Waste

Activity Location:_____

Waste Stream

- ☐ C&D Demolition Debris
- ☐ Non-Friable ACM
- ☐ Friable ACM
- ☐ PB WWTP Sludge
- ☐ GP WWTP Sludge
- ☐ Characteristic Haz Waste (flammable D001, corrosive D002, reactive D003, toxicity D004 –D043)
- ☐ Process Haz Waste
- ☐ Demo Debris (C&D)
- ☐ Non-Haz Waste (Solid)
- ☐ Non-Haz Waste (Liquid)
- ☐ PCB (Non-TSCA)
- ☐ PCB (TSCA)

Disposal Facility:_____

Carrier:_____

Truck #:_____

Container #:_____

Manifest #:_____

Profile / Approval #:_____

Scale Info

Scale Ticket #:_____

Gross Weight:_____

Tare weight:_____

Net weight:_____

Net Kilogram Conversion (PCB Only):_____

NorthStar Rep. Signature:_____

HILCO REDEVELOPEMENT PARTNERS
3144 W. PASSYUNK AVE

PHILADELPHIA PA, 19145

Ticket #: 20032074
Date: 11/17/2021 9:45 AM
Phone: ( ) -
Fax: ( ) -

Customer: HILCO
HILCO

,

Order Number: 001
SCRAP REMOVAL
Tons: 89535.266
Loads: 5880

DT261-2 - ALLEGHENY TRUCK 261 W/TRAILER 2
CARLAD - CARLA DAVILA

Remarks: SCRAP REMOVAL

Signature: _____

Material	Quantity	Price	Material $	Delivery $	Misc $	Tax $	Line Total $
SCRAP	9.25 tn						

Weight Information

Material	Gross	Tare	Net
SCRAP	58500.00	40000.00	18500.00

THE MONSTER
3
1796

ABOVEGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

SECTION III. Site Assessment Information

Tank Registration # 049A (complete one sheet for EACH tank system and attach ALL laboratory sheets pertaining to that system)

Facility ID Number 51 - 33620

A. Provide depth of *BEDROCK* and *WATER* IF encountered during excavation or soil boring (write "N/A": if NOT encountered).

Bedrock N/A feet below land surface Water 15 feet below land surface

B. Provide Length of *PIPING* IF piping was closed-in-place (write "N/A" if NOT closed-in-place).

Length of piping N/A feet

C. TANK SYSTEM REMOVED FROM THE GROUND/SITE

1). Was obvious contamination observed while excavating, sampling or removing the tank system?

☒ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records ----→ Do not complete item C.2. below.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

---→ Complete item C.2. below.

2). Was contamination localized (within three feet of the tank system in every direction with no obvious water contamination)?

☐ YES ----→ Remove or remediate contaminated soil ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ NO ----→ Continue Interim Remedial Actions ----→ See end of this section for options on submission and maintenance of closure records.

D. TANK SYSTEM CLOSED-IN-PLACE OR CHANGED-IN-SERVICE

Was obvious contamination observed during sampling, boring or assessing water depths?

☐ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

Continue with corrective action ----→ See end of this section for options on submission and maintenance of closure records.

E. If the answer to C.1. is "no", the answer to C.2. is "yes" or the answer to D. is "no", confirmatory samples are required. Use the sample/analysis information sheet on page 10 of 11 to provide the information on confirmatory sampling and complete the diagram on Page 11 of 11.

Options for Submission and Maintenance of Closure Site Assessment Records

Records of the site assessment must be maintained for at least three years after completion of permanent closure or change-in-service in one of the following ways:

(a) By the owners and operators who took the tank system out of service;
(b) By the current owners and operators of the tank system site; or
(c) By mailing these records to the DEP regional office responsible for the county in which the tank is located if they cannot be maintained at the closed facility.

Where the results of the site assessment indicate that obvious, localized soil contamination was encountered and the analytical results of the confirmatory sampling show levels below the statewide standard/action levels, this closure report form (Sections I, II, and III) or some other acceptable site characterization report must be received by the Department within 180 days of verbally reporting the release.

Where the results of the site assessment indicate that no obvious contamination or obvious, localized contamination was encountered, but the analytical results of the confirmatory sampling show levels above the statewide standard/action levels, or where there is obvious, extensive contamination, Section 245.310(a)(8) of the Corrective Action Process (CAP) regulations requires that details of removal from service be included in the site characterization report. A copy of the completed closure report form should be submitted as part of the site characterization report to satisfy the requirements of Section 245.310(a)(8) of the CAP regulations.

I, Kevin Long , hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating to unsworn
(Print Name)
falsification to authorities) that I am the person who performed the site assessment activities associated with the closure of the above referenced storage tank system(s) and that the information provided by me in this closure report (Section III) is true, accurate and complete to the best of my knowledge and belief.

Kevin L. Long
Signature of Person Performing Site Assessment

2 / 1 / 2023
Date

Principal Consultant
Title of Person Performing Site Assessment

Terraphase Engineering, Inc.
Name of Company Performing Site Assessment

609-236-8171 x93
Telephone Number of Person Performing Site Assessment

ABOVEGROUND STORAGE TANK SYSTEM
CLOSURE REPORT FORM

Sample/Analysis Information
(Attachment for Section III.)

Facility ID Number 51 - 33620

Sample I.D. (See diagram)	Parameter	Analytical Method[1]		Media	Result (units)	Detection Limit (units)	Date Sample Taken	Date Sample Analyzed
See attached summary table							/ /	/ /
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[1] Where EPA Method 5035 is used, indicate sample collection option in the right-hand box of this column using the following codes:

P - Samples placed in a soil sample vial with a preservative present.
E - Samples collected and stored in a soil collection device which is airtight and affords little to no headspace.

N - Samples placed in soil sample vial without a preservative present.

Site Location and Sampling Map - Use this page or suitable facsimile to provide a large-scale map of the site where storage tank systems were closed. Scales between 1" = 10 and 1" = 100 feet frequently work well. Include the following information as each applies to the site: facility name and I.D., county, township or borough, property boundaries or area of interest, buildings, roads and streets with names or route numbers, utilities, location and ID number of storage tank systems removed including piping and dispensers, soil stockpile locations, excavations or other locations of product recovery, north arrow, approximate map scale and legend. Also, show depth and location of samples with sample ID numbers cross-referenced to the same ID numbers shown on Page 10 of 11.

Facility Name and ID: -

County:

Township/Borough: See attached Figure

Table 4 - 049A (PB 826)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-826-01	PB-826-01-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0014	7/13/2022	7/16/2022
PB-826-01	PB-826-01-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-826-01	PB-826-01-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	7/13/2022	7/15/2022
PB-826-01	PB-826-01-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/13/2022	7/15/2022
PB-826-01	PB-826-01-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-826-01	PB-826-01-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/13/2022	7/15/2022
PB-826-01	PB-826-01-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-826-01	PB-826-01-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/13/2022	7/15/2022
PB-826-01	PB-826-01-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-826-01	PB-826-01-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-826-01	PB-826-01-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0028	7/13/2022	7/16/2022
PB-826-01	PB-826-01-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-826-01	PB-826-01-SS01	3	3.5	Lead	SW6010D	Soil	3.14	4.68	7/13/2022	7/19/2022
PB-826-01	PB-826-01-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0028	7/13/2022	7/19/2022
PB-826-01	PB-826-01-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00069	7/13/2022	7/16/2022
PB-826-01	PB-826-01-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0014	7/13/2022	7/16/2022
PB-826-01	PB-826-01-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0028	7/13/2022	7/16/2022
PB-826-01	PB-826-01-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00069	7/13/2022	7/16/2022
PB-826-01	PB-826-01-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0014	7/13/2022	7/16/2022
PB-826-01	PB-826-01-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0014	7/13/2022	7/16/2022
PB-826-01	PB-826-01-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.00032	0.0028	7/13/2022	7/16/2022
PB-826-02	PB-826-02-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/13/2022	7/16/2022
PB-826-02	PB-826-02-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-02	PB-826-02-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/13/2022	7/15/2022
PB-826-02	PB-826-02-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/13/2022	7/15/2022
PB-826-02	PB-826-02-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-02	PB-826-02-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/13/2022	7/15/2022
PB-826-02	PB-826-02-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-02	PB-826-02-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/13/2022	7/15/2022
PB-826-02	PB-826-02-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-02	PB-826-02-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-02	PB-826-02-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/13/2022	7/16/2022
PB-826-02	PB-826-02-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-02	PB-826-02-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0021	7/13/2022	7/15/2022
PB-826-02	PB-826-02-SS01	3	3.5	Lead	SW6010D	Soil	3.36	4.04	7/13/2022	7/19/2022
PB-826-02	PB-826-02-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00052	7/13/2022	7/16/2022
PB-826-02	PB-826-02-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/13/2022	7/16/2022
PB-826-02	PB-826-02-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/13/2022	7/16/2022
PB-826-02	PB-826-02-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00052	7/13/2022	7/16/2022
PB-826-02	PB-826-02-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	7/13/2022	7/16/2022
PB-826-02	PB-826-02-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/13/2022	7/16/2022
PB-826-02	PB-826-02-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.001	0.0021	7/13/2022	7/16/2022
PB-826-03	PB-826-03-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0013	7/13/2022	7/16/2022
PB-826-03	PB-826-03-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/13/2022	7/15/2022
PB-826-03	PB-826-03-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/13/2022	7/15/2022
PB-826-03	PB-826-03-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-03	PB-826-03-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/13/2022	7/15/2022
PB-826-03	PB-826-03-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-03	PB-826-03-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/13/2022	7/15/2022
PB-826-03	PB-826-03-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-03	PB-826-03-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-03	PB-826-03-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-03	PB-826-03-SS01	3	3.5	Lead	SW6010D	Soil	3.14	4.08	7/13/2022	7/19/2022
PB-826-03	PB-826-03-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.02	0.0025	7/13/2022	7/16/2022
PB-826-03	PB-826-03-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0013	7/13/2022	7/16/2022
PB-826-03	PB-826-03-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0013	7/13/2022	7/16/2022
PB-826-03	PB-826-03-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00063	7/13/2022	7/16/2022
PB-826-03	PB-826-03-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0025	7/13/2022	7/16/2022
PB-826-03	PB-826-03-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0013	7/13/2022	7/16/2022
PB-826-03	PB-826-03-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00063	7/13/2022	7/16/2022
PB-826-03	PB-826-03-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0025	7/13/2022	7/16/2022
PB-826-03	PB-826-03-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0025	7/13/2022	7/16/2022
PB-826-03	PB-826-03-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-04	PB-826-04-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-04	PB-826-04-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-04	PB-826-04-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/13/2022	7/15/2022
PB-826-04	PB-826-04-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-04	PB-826-04-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/13/2022	7/15/2022
PB-826-04	PB-826-04-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-04	PB-826-04-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/13/2022	7/15/2022
PB-826-04	PB-826-04-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/13/2022	7/15/2022
PB-826-04	PB-826-04-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0019	7/13/2022	7/16/2022
PB-826-04	PB-826-04-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-04	PB-826-04-SS01	3	3.5	Lead	SW6010D	Soil	3.88	4.14	7/13/2022	7/19/2022
PB-826-04	PB-826-04-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0039	7/13/2022	7/19/2022
PB-826-04	PB-826-04-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-04	PB-826-04-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0039	7/13/2022	7/16/2022
PB-826-04	PB-826-04-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00097	7/13/2022	7/16/2022
PB-826-04	PB-826-04-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0019	7/13/2022	7/16/2022
PB-826-04	PB-826-04-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0039	7/13/2022	7/16/2022
PB-826-04	PB-826-04-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00097	7/13/2022	7/16/2022
PB-826-04	PB-826-04-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0019	7/13/2022	7/16/2022
PB-826-04	PB-826-04-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0019	7/13/2022	7/16/2022
PB-826-04	PB-826-04-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.0012	0.0039	7/13/2022	7/16/2022
PB-826-05	PB-826-05-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/13/2022	7/16/2022
PB-826-05	PB-826-05-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-05	PB-826-05-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/13/2022	7/15/2022
PB-826-05	PB-826-05-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/13/2022	7/15/2022
PB-826-05	PB-826-05-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-05	PB-826-05-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/13/2022	7/15/2022
PB-826-05	PB-826-05-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-05	PB-826-05-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/13/2022	7/15/2022
PB-826-05	PB-826-05-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-05	PB-826-05-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-05	PB-826-05-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/13/2022	7/16/2022
PB-826-05	PB-826-05-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-05	PB-826-05-SS01	3	3.5	Lead	SW6010D	Soil	3.46	4.14	7/13/2022	7/19/2022
PB-826-05	PB-826-05-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	7/13/2022	7/19/2022
PB-826-05	PB-826-05-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00055	7/13/2022	7/16/2022
PB-826-05	PB-826-05-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/13/2022	7/16/2022
PB-826-05	PB-826-05-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/13/2022	7/16/2022
PB-826-05	PB-826-05-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00055	7/13/2022	7/16/2022
PB-826-05	PB-826-05-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	7/13/2022	7/16/2022
PB-826-05	PB-826-05-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/13/2022	7/16/2022
PB-826-05	PB-826-05-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	7/13/2022	7/16/2022
PB-826-06	PB-826-06-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0015	7/13/2022	7/16/2022

Table 4 - 049A (PB 826)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-826-06	PB-826-06-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/13/2022	7/15/2022
PB-826-06	PB-826-06-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/13/2022	7/15/2022
PB-826-06	PB-826-06-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-826-06	PB-826-06-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/13/2022	7/15/2022
PB-826-06	PB-826-06-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-826-06	PB-826-06-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/13/2022	7/15/2022
PB-826-06	PB-826-06-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-826-06	PB-826-06-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-826-06	PB-826-06-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-826-06	PB-826-06-SS01	3	3.5	Lead	SW6010D	Soil	8.1	10.4	7/13/2022	7/19/2022
PB-826-06	PB-826-06-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.013	0.003	7/13/2022	7/16/2022
PB-826-06	PB-826-06-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0015	7/13/2022	7/16/2022
PB-826-06	PB-826-06-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0015	7/13/2022	7/16/2022
PB-826-06	PB-826-06-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00075	7/13/2022	7/16/2022
PB-826-06	PB-826-06-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.003	7/13/2022	7/16/2022
PB-826-06	PB-826-06-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0015	7/13/2022	7/16/2022
PB-826-06	PB-826-06-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00075	7/13/2022	7/16/2022
PB-826-06	PB-826-06-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.003	7/13/2022	7/16/2022
PB-826-06	PB-826-06-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-826-06	PB-826-06-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.003	7/13/2022	7/15/2022
PB-826-07	PB-826-07-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-07	PB-826-07-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/13/2022	7/15/2022
PB-826-07	PB-826-07-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-07	PB-826-07-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/13/2022	7/15/2022
PB-826-07	PB-826-07-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-07	PB-826-07-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/13/2022	7/15/2022
PB-826-07	PB-826-07-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/13/2022	7/15/2022
PB-826-07	PB-826-07-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-07	PB-826-07-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	7/13/2022	7/16/2022
PB-826-07	PB-826-07-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-07	PB-826-07-SS01	3	3.5	Lead	SW6010D	Soil	3.19	10.3	7/13/2022	7/19/2022
PB-826-07	PB-826-07-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.016	0.0024	7/13/2022	7/16/2022
PB-826-07	PB-826-07-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/13/2022	7/16/2022
PB-826-07	PB-826-07-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	7/13/2022	7/16/2022
PB-826-07	PB-826-07-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00061	7/13/2022	7/16/2022
PB-826-07	PB-826-07-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/13/2022	7/16/2022
PB-826-07	PB-826-07-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/13/2022	7/16/2022
PB-826-07	PB-826-07-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00061	7/13/2022	7/16/2022
PB-826-07	PB-826-07-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/13/2022	7/16/2022
PB-826-07	PB-826-07-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0024	7/13/2022	7/16/2022
PB-826-07	PB-826-07-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/13/2022	7/15/2022
PB-826-08	PB-826-08-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/13/2022	7/15/2022
PB-826-08	PB-826-08-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-826-08	PB-826-08-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/13/2022	7/15/2022
PB-826-08	PB-826-08-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-826-08	PB-826-08-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.2	7/13/2022	7/15/2022
PB-826-08	PB-826-08-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.2	7/13/2022	7/15/2022
PB-826-08	PB-826-08-SS01	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-826-08	PB-826-08-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-826-08	PB-826-08-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-826-08	PB-826-08-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/13/2022	7/15/2022
PB-826-08	PB-826-08-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00051	7/13/2022	7/16/2022
PB-826-08	PB-826-08-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/13/2022	7/16/2022
PB-826-08	PB-826-08-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/13/2022	7/16/2022
PB-826-08	PB-826-08-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/13/2022	7/16/2022
PB-826-08	PB-826-08-SS01	4.5	5	Benzene	SW8260C	Soil	0.00033	0.00051	7/13/2022	7/16/2022
PB-826-08	PB-826-08-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/13/2022	7/16/2022
PB-826-08	PB-826-08-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/13/2022	7/16/2022
PB-826-08	PB-826-08-SS01	4.5	5	Lead	SW6010D	Soil	4.67	4.69	7/13/2022	7/19/2022
PB-826-08	PB-826-08-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.001	7/13/2022	7/16/2022
PB-826-08	PB-826-08-SS01	4.5	5	Cumene	SW8260C	Soil	ND	0.001	7/13/2022	7/16/2022
PB-826-08	PB-826-08-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-826-09	PB-826-09-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-826-09	PB-826-09-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/13/2022	7/15/2022
PB-826-09	PB-826-09-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-826-09	PB-826-09-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/13/2022	7/15/2022
PB-826-09	PB-826-09-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-826-09	PB-826-09-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.2	7/13/2022	7/15/2022
PB-826-09	PB-826-09-SS01	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-826-09	PB-826-09-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-826-09	PB-826-09-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.0014	7/13/2022	7/16/2022
PB-826-09	PB-826-09-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.2	7/13/2022	7/15/2022
PB-826-09	PB-826-09-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00068	7/13/2022	7/16/2022
PB-826-09	PB-826-09-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-826-09	PB-826-09-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0027	7/13/2022	7/16/2022
PB-826-09	PB-826-09-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.0027	7/13/2022	7/16/2022
PB-826-09	PB-826-09-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0014	7/13/2022	7/16/2022
PB-826-09	PB-826-09-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0027	7/13/2022	7/16/2022
PB-826-09	PB-826-09-SS01	4.5	5	Benzene	SW8260C	Soil	ND	0.00068	7/13/2022	7/16/2022
PB-826-09	PB-826-09-SS01	4.5	5	Cumene	SW8260C	Soil	ND	0.0014	7/13/2022	7/16/2022
PB-826-09	PB-826-09-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	ND	0.0014	7/13/2022	7/16/2022
PB-826-09	PB-826-09-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0027	7/13/2022	7/16/2022
PB-826-09	PB-826-09-SS01	4.5	5	Lead	SW6010D	Soil	5.55	4.83	7/13/2022	7/19/2022
PB-826-10	PB-826-10-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0015	7/13/2022	7/16/2022
PB-826-10	PB-826-10-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-826-10	PB-826-10-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-826-10	PB-826-10-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-826-10	PB-826-10-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/13/2022	7/15/2022
PB-826-10	PB-826-10-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/13/2022	7/15/2022
PB-826-10	PB-826-10-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-826-10	PB-826-10-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/13/2022	7/15/2022
PB-826-10	PB-826-10-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-826-10	PB-826-10-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/13/2022	7/15/2022
PB-826-10	PB-826-10-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00073	7/13/2022	7/16/2022
PB-826-10	PB-826-10-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-826-10	PB-826-10-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0029	7/13/2022	7/15/2022
PB-826-10	PB-826-10-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0029	7/13/2022	7/16/2022
PB-826-10	PB-826-10-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0015	7/13/2022	7/16/2022
PB-826-10	PB-826-10-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0029	7/13/2022	7/16/2022
PB-826-10	PB-826-10-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00073	7/13/2022	7/16/2022
PB-826-10	PB-826-10-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0015	7/13/2022	7/16/2022
PB-826-10	PB-826-10-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0015	7/13/2022	7/16/2022
PB-826-10	PB-826-10-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0029	7/13/2022	7/16/2022
PB-826-10	PB-826-10-SS01	3	3.5	Lead	SW6010D	Soil	3.72	4.13	7/13/2022	7/19/2022
PB-826-11	PB-826-11-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	7/14/2022	7/18/2022
PB-826-11	PB-826-11-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022

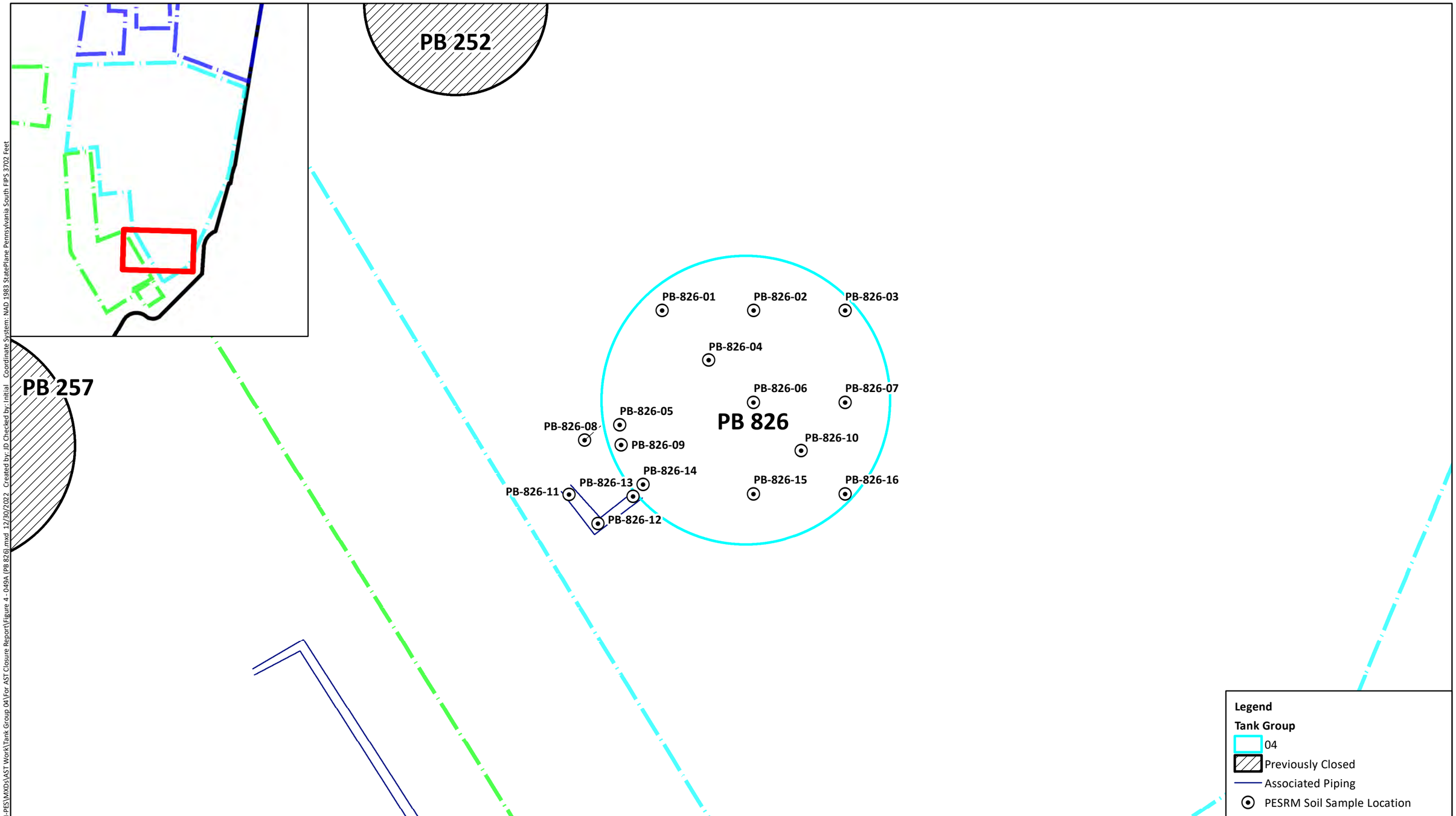
Table 4 - 049A (PB 826)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-826-11	PB-826-11-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/14/2022	7/18/2022
PB-826-11	PB-826-11-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/14/2022	7/18/2022
PB-826-11	PB-826-11-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-826-11	PB-826-11-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-826-11	PB-826-11-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-826-11	PB-826-11-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-826-11	PB-826-11-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-826-11	PB-826-11-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-826-11	PB-826-11-SS01	3	3.5	Lead	SW6010D	Soil	3.61	4.12	7/14/2022	7/19/2022
PB-826-11	PB-826-11-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0024	7/14/2022	7/18/2022
PB-826-11	PB-826-11-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/14/2022	7/18/2022
PB-826-11	PB-826-11-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	7/14/2022	7/18/2022
PB-826-11	PB-826-11-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00059	7/14/2022	7/18/2022
PB-826-11	PB-826-11-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/14/2022	7/18/2022
PB-826-11	PB-826-11-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/14/2022	7/18/2022
PB-826-11	PB-826-11-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00059	7/14/2022	7/18/2022
PB-826-11	PB-826-11-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/14/2022	7/18/2022
PB-826-11	PB-826-11-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0024	7/14/2022	7/18/2022
PB-826-11	PB-826-11-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	Lead	SW6010D	Soil	3	4.04	7/14/2022	7/19/2022
PB-826-12	PB-826-12-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00055	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00055	7/14/2022	7/18/2022
PB-826-12	PB-826-12-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0014	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0007	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	Lead	SW6010D	Soil	4.29	4.12	7/14/2022	7/19/2022
PB-826-13	PB-826-13-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0028	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0028	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0014	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0028	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0007	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0014	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0014	7/14/2022	7/18/2022
PB-826-13	PB-826-13-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0028	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.64	0.12	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	Anthracene	SW8270D	Soil	0.061	0.12	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	Naphthalene	SW8270D	Soil	0.32	0.19	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	Fluorene	SW8270D	Soil	0.18	0.19	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	Chrysene	SW8270D	Soil	0.042	0.12	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.03	0.12	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	Pyrene	SW8270D	Soil	0.16	0.12	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.062	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.214	0.12	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.031	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	Lead	SW6010D	Soil	8.32	2.23	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	4.4	0.12	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.031	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	Cumene	SW8260C	Soil	0.28	0.062	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	0.73	0.062	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.12	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.062	7/14/2022	7/18/2022
PB-826-14	PB-826-14-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	12	0.12	7/14/2022	7/18/2022
PB-826-15	DUP-44	3	3.5	Chrysene	SW8270D	Soil	0.15	0.1	7/14/2022	7/18/2022
PB-826-15	DUP-44	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.027	0.1	7/14/2022	7/18/2022
PB-826-15	DUP-44	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-826-15	DUP-44	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.029	0.1	7/14/2022	7/18/2022
PB-826-15	DUP-44	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.027	0.14	7/14/2022	7/18/2022
PB-826-15	DUP-44	3	3.5	Fluorene	SW8270D	Soil	0.39	0.17	7/14/2022	7/18/2022
PB-826-15	DUP-44	3	3.5	Naphthalene	SW8270D	Soil	2.7	0.17	7/14/2022	7/18/2022
PB-826-15	DUP-44	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-826-15	DUP-44	3	3.5	Lead	SW6010D	Soil	1.7	2.11	7/14/2022	7/20/2022
PB-826-15	DUP-44	3	3.5	Phenanthrene	SW8270D	Soil	0.99	0.1	7/14/2022	7/18/2022
PB-826-15	DUP-44	3	3.5	Pyrene	SW8270D	Soil	0.085	0.1	7/14/2022	7/18/2022
PB-826-15	DUP-44	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	15	0.14	7/14/2022	7/19/2022
PB-826-15	DUP-44	3	3.5	Toluene	SW8260C	Soil	0.051	0.071	7/14/2022	7/19/2022
PB-826-15	DUP-44	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.14	7/14/2022	7/19/2022
PB-826-15	DUP-44	3	3.5	Ethyl Benzene	SW8260C	Soil	0.56	0.071	7/14/2022	7/19/2022
PB-826-15	DUP-44	3	3.5	Cumene	SW8260C	Soil	1	0.071	7/14/2022	7/19/2022
PB-826-15	DUP-44	3	3.5	Benzene	SW8260C	Soil	0.068	0.036	7/14/2022	7/19/2022
PB-826-15	DUP-44	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	4.8	0.14	7/14/2022	7/19/2022
PB-826-15	DUP-44	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.071	7/14/2022	7/19/2022
PB-826-15	DUP-44	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.036	7/14/2022	7/19/2022
PB-826-15	DUP-44	3	3.5	Xylenes (total)	SW8260C	Soil	29.4	0.14	7/14/2022	7/19/2022
PB-826-15	PB-826-15-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.069	0.12	7/14/2022	7/18/2022
PB-826-15	PB-826-15-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	0.053	0.15	7/14/2022	7/18/2022
PB-826-15	PB-826-15-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.055	0.12	7/14/2022	7/18/2022

Table 4 - 049A (PB 826)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-826-15	PB-826-15-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.041	0.15	7/14/2022	7/18/2022
PB-826-15	PB-826-15-SS01	3	3.5	Chrysene	SW8270D	Soil	0.095	0.12	7/14/2022	7/18/2022
PB-826-15	PB-826-15-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/14/2022	7/18/2022
PB-826-15	PB-826-15-SS01	3	3.5	Naphthalene	SW8270D	Soil	0.052	0.19	7/14/2022	7/18/2022
PB-826-15	PB-826-15-SS01	3	3.5	Lead	SW6010D	Soil	162	2.2	7/14/2022	7/18/2022
PB-826-15	PB-826-15-SS01	3	3.5	Pyrene	SW8270D	Soil	0.18	0.12	7/14/2022	7/18/2022
PB-826-15	PB-826-15-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0017	7/14/2022	7/19/2022
PB-826-15	PB-826-15-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.15	0.12	7/14/2022	7/18/2022
PB-826-15	PB-826-15-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0034	7/14/2022	7/19/2022
PB-826-15	PB-826-15-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0017	7/14/2022	7/19/2022
PB-826-15	PB-826-15-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0017	7/14/2022	7/19/2022
PB-826-15	PB-826-15-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00086	7/14/2022	7/19/2022
PB-826-15	PB-826-15-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0034	7/14/2022	7/19/2022
PB-826-15	PB-826-15-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0017	7/14/2022	7/19/2022
PB-826-15	PB-826-15-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00086	7/14/2022	7/19/2022
PB-826-15	PB-826-15-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0034	7/14/2022	7/19/2022
PB-826-15	PB-826-15-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0034	7/14/2022	7/19/2022
PB-826-15	PB-826-15-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	Naphthalene	SW8270D	Soil	0.025	0.19	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	Lead	SW6010D	Soil	6.77	2.22	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0036	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.00061	0.0036	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00089	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0018	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.00089	0.0036	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00089	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0018	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0018	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0036	7/14/2022	7/18/2022
PB-826-16	PB-826-16-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0018	7/14/2022	7/18/2022

Notes:
SS -- Soil Sample.
DUP-44 is a field duplicate associated with sample PB-826-15-SS01.



SAFETY FIRST

terraphase engineering

CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

Site Location and Sampling Map 049A (PB 826)

Figure 4

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For AST Closure Report\Figure 4 - 049A (PB 826).mxd 12/30/2022 Created by: JD Checked by: Initial Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

Photograph 1:

View of Tank 049A (PB 826) prior to demolition.

Photograph 2:

View of product removal prior to demolition.

Photograph 3:

View of the concrete pad following demolition.

Product Movement and Waste Disposal Documentation (Tank 049A)

PES Project Load Ticket

NorthStar Contracting Group, Inc.

5120103.

Load Ticket: 19948

Date: 04-18-22

Scrap

Sold to: Allegheny

Location: Tank 816

Carrier: Allegheny

Steel / Ferrous

- ☐ No. 1 P+S
- ☐ No. 2 Heavy Melt
- ☐ Cast Iron
- ☐ Mixed
- ☐ Pipe
- ☐ Light Iron
- ☐ Re-Bar
- ☐ Other Tank Plate

Non-Ferrous

- ☐ Insulated Copper Wire
- ☐ No. 1 Copper Wire
- ☐ Brass
- ☐ Aluminum
- ☐ Stainless, Grade
- ☐ Other Alloy, Grade
- ☐ Mixed
- ☐ Other:

Condition

- ☐ Prepared
- ☐ Unprepared
- ☐ Green Waste
- ☐ Concrete
- ☐ Masonry
- ☐ Mixed Masonry
- ☐ Wood Only
- ☐ Demo Debris (C&D)
- ☐ Dirt / Fill
- ☐ Sand Fill
- ☐ Crushed Stone
- ☐ Other:

Scale Ticket #:

Gross Weight: 80186 lbs

Tare Weight: 36280 lbs

Net Weight: 43906 lbs

NorthStar Rep. Signature:

Received By:

Non-Haz / ACM / Special Waste

Activity Location:

Waste Stream

- ☐ C&D Demolition Debris
- ☐ Non-Friable ACM
- ☐ Friable ACM
- ☐ PB WWTP Sludge
- ☐ GP WWTP Sludge
- ☐ Characteristic Haz Waste (flammable D001, corrosive D002, reactive D003, toxicity D004 –D043)
- ☐ Process Haz Waste
- ☐ Demo Debris (C&D)
- ☐ Non-Haz Waste (Solid)
- ☐ Non-Haz Waste (Liquid)
- ☐ PCB (Non-TSCA)
- ☐ PCB (TSCA)

Disposal Facility:

Carrier:

Truck #:

Container #:

Manifest #:

Profile / Approval #:

Scale Info

Scale Ticket #:

Gross Weight:

Tare weight:

Net weight:

Net Kilogram Conversion (PCB Only):

NorthStar Rep. Signature:

HILCO REDEVELOPEMENT PARTNERS
3144 W. PASSYUNK AVE

PHILADELPHIA PA, 19145

Ticket #: 20035832
Date: 04/18/2022 7:48 AM
Phone: ( ) -
Fax: ( ) -

Customer: HILCO
HILCO

,

Order Number: 001
SCRAP REMOVAL
Tons: 147547.556
Loads: 9606

DT07-30 - ALLEGHENY TRUCK 07 W/TRAILER 30
CARLAD - CARLA DAVILA

Remarks: SCRAP REMOVAL

Signature: _____

Material	Quantity	Price	Material $	Delivery $	Misc $	Tax $	Line Total $
SCRAP	21.95 tn						

Weight Information

Material	Gross	Tare	Net
SCRAP	80180.00	36280.00	43900.00

19948
TR 30
INC.
7759

ABOVEGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

SECTION III. Site Assessment Information

Tank Registration # 053A (complete one sheet for EACH tank system and attach ALL laboratory sheets pertaining to that system)

Facility ID Number 51 - 33620

A. Provide depth of *BEDROCK* and *WATER* IF encountered during excavation or soil boring (write "N/A": if NOT encountered).

Bedrock N/A feet below land surface Water 15 feet below land surface

B. Provide Length of *PIPING* IF piping was closed-in-place (write "N/A" if NOT closed-in-place).

Length of piping N/A feet

C. TANK SYSTEM REMOVED FROM THE GROUND/SITE

1). Was obvious contamination observed while excavating, sampling or removing the tank system?

☒ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records ----→ Do not complete item C.2. below.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

---→ Complete item C.2. below.

2). Was contamination localized (within three feet of the tank system in every direction with no obvious water contamination)?

☐ YES ----→ Remove or remediate contaminated soil ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ NO ----→ Continue Interim Remedial Actions ----→ See end of this section for options on submission and maintenance of closure records.

D. TANK SYSTEM CLOSED-IN-PLACE OR CHANGED-IN-SERVICE

Was obvious contamination observed during sampling, boring or assessing water depths?

☐ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

Continue with corrective action ----→ See end of this section for options on submission and maintenance of closure records.

E. If the answer to C.1. is "no", the answer to C.2. is "yes" or the answer to D. is "no", confirmatory samples are required. Use the sample/analysis information sheet on page 10 of 11 to provide the information on confirmatory sampling and complete the diagram on Page 11 of 11.

Options for Submission and Maintenance of Closure Site Assessment Records

Records of the site assessment must be maintained for at least three years after completion of permanent closure or change-in-service in one of the following ways:

(a) By the owners and operators who took the tank system out of service;
(b) By the current owners and operators of the tank system site; or
(c) By mailing these records to the DEP regional office responsible for the county in which the tank is located if they cannot be maintained at the closed facility.

Where the results of the site assessment indicate that obvious, localized soil contamination was encountered and the analytical results of the confirmatory sampling show levels below the statewide standard/action levels, this closure report form (Sections I, II, and III) or some other acceptable site characterization report must be received by the Department within 180 days of verbally reporting the release.

Where the results of the site assessment indicate that no obvious contamination or obvious, localized contamination was encountered, but the analytical results of the confirmatory sampling show levels above the statewide standard/action levels, or where there is obvious, extensive contamination, Section 245.310(a)(8) of the Corrective Action Process (CAP) regulations requires that details of removal from service be included in the site characterization report. A copy of the completed closure report form should be submitted as part of the site characterization report to satisfy the requirements of Section 245.310(a)(8) of the CAP regulations.

I, Kevin Long , hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating to unsworn
(Print Name)
falsification to authorities) that I am the person who performed the site assessment activities associated with the closure of the above referenced storage tank system(s) and that the information provided by me in this closure report (Section III) is true, accurate and complete to the best of my knowledge and belief.

Kevin L. Long

Signature of Person Performing Site Assessment

2 / 1 / 2023
Date

Principal Consultant
Title of Person Performing Site Assessment

Terraphase Engineering, Inc.
Name of Company Performing Site Assessment

609-236-8171 x93
Telephone Number of Person Performing Site Assessment

ABOVEGROUND STORAGE TANK SYSTEM
CLOSURE REPORT FORM

Sample/Analysis Information
(Attachment for Section III.)

Facility ID Number 51 - 33620

Sample I.D. (See diagram)	Parameter	Analytical Method[1]		Media	Result (units)	Detection Limit (units)	Date Sample Taken	Date Sample Analyzed
See attached summary table							/ /	/ /
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[1] Where EPA Method 5035 is used, indicate sample collection option in the right-hand box of this column using the following codes:

P - Samples placed in a soil sample vial with a preservative present.
E - Samples collected and stored in a soil collection device which is airtight and affords little to no headspace.

N - Samples placed in soil sample vial without a preservative present.

Site Location and Sampling Map - Use this page or suitable facsimile to provide a large-scale map of the site where storage tank systems were closed. Scales between 1" = 10 and 1" = 100 feet frequently work well. Include the following information as each applies to the site: facility name and I.D., county, township or borough, property boundaries or area of interest, buildings, roads and streets with names or route numbers, utilities, location and ID number of storage tank systems removed including piping and dispensers, soil stockpile locations, excavations or other locations of product recovery, north arrow, approximate map scale and legend. Also, show depth and location of samples with sample ID numbers cross-referenced to the same ID numbers shown on Page 10 of 11.

Facility Name and ID: -

County:

Township/Borough: See attached Figure

Table 5 - 053A (PB 840)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-840-01	DUP-38	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/8/2022	7/14/2022
PB-840-01	DUP-38	3	3.5	Phenanthrene	SW8270D	Soil	0.39	0.11	7/8/2022	7/11/2022
PB-840-01	DUP-38	3	3.5	Naphthalene	SW8270D	Soil	0.045	0.19	7/8/2022	7/11/2022
PB-840-01	DUP-38	3	3.5	Fluorene	SW8270D	Soil	0.052	0.19	7/8/2022	7/11/2022
PB-840-01	DUP-38	3	3.5	Chrysene	SW8270D	Soil	0.43	0.11	7/8/2022	7/11/2022
PB-840-01	DUP-38	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.18	0.15	7/8/2022	7/11/2022
PB-840-01	DUP-38	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.52	0.11	7/8/2022	7/11/2022
PB-840-01	DUP-38	3	3.5	Benzo(a)pyrene	SW8270D	Soil	0.4	0.15	7/8/2022	7/11/2022
PB-840-01	DUP-38	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.44	0.11	7/8/2022	7/11/2022
PB-840-01	DUP-38	3	3.5	Pyrene	SW8270D	Soil	0.53	0.11	7/8/2022	7/11/2022
PB-840-01	DUP-38	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0023	7/8/2022	7/14/2022
PB-840-01	DUP-38	3	3.5	Anthracene	SW8270D	Soil	0.092	0.11	7/8/2022	7/11/2022
PB-840-01	DUP-38	3	3.5	Lead	SW6010D	Soil	36.7	2.2	7/8/2022	7/15/2022
PB-840-01	DUP-38	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0023	7/8/2022	7/15/2022
PB-840-01	DUP-38	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00057	7/8/2022	7/14/2022
PB-840-01	DUP-38	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/8/2022	7/14/2022
PB-840-01	DUP-38	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0023	7/8/2022	7/14/2022
PB-840-01	DUP-38	3	3.5	Benzene	SW8260C	Soil	ND	0.00057	7/8/2022	7/14/2022
PB-840-01	DUP-38	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	7/8/2022	7/14/2022
PB-840-01	DUP-38	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/8/2022	7/14/2022
PB-840-01	DUP-38	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0023	7/8/2022	7/14/2022
PB-840-01	PB-840-01-SS01	3	3.5	Toluene	SW8260C	Soil	0.0026	0.0016	7/8/2022	7/14/2022
PB-840-01	PB-840-01-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.19	0.12	7/8/2022	7/12/2022
PB-840-01	PB-840-01-SS01	3	3.5	Naphthalene	SW8270D	Soil	0.046	0.2	7/8/2022	7/12/2022
PB-840-01	PB-840-01-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/8/2022	7/12/2022
PB-840-01	PB-840-01-SS01	3	3.5	Chrysene	SW8270D	Soil	0.22	0.12	7/8/2022	7/12/2022
PB-840-01	PB-840-01-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.12	0.16	7/8/2022	7/12/2022
PB-840-01	PB-840-01-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.18	0.12	7/8/2022	7/12/2022
PB-840-01	PB-840-01-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	0.15	0.16	7/8/2022	7/12/2022
PB-840-01	PB-840-01-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.15	0.12	7/8/2022	7/12/2022
PB-840-01	PB-840-01-SS01	3	3.5	Pyrene	SW8270D	Soil	0.21	0.12	7/8/2022	7/12/2022
PB-840-01	PB-840-01-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.0014	0.0032	7/8/2022	7/14/2022
PB-840-01	PB-840-01-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/12/2022
PB-840-01	PB-840-01-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.008	0.0032	7/8/2022	7/12/2022
PB-840-01	PB-840-01-SS01	3	3.5	Lead	SW6010D	Soil	19.2	4.58	7/8/2022	7/15/2022
PB-840-01	PB-840-01-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0008	7/8/2022	7/14/2022
PB-840-01	PB-840-01-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0016	7/8/2022	7/14/2022
PB-840-01	PB-840-01-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.0023	0.0032	7/8/2022	7/14/2022
PB-840-01	PB-840-01-SS01	3	3.5	Benzene	SW8260C	Soil	0.006	0.0008	7/8/2022	7/14/2022
PB-840-01	PB-840-01-SS01	3	3.5	Cumene	SW8260C	Soil	0.0092	0.0016	7/8/2022	7/14/2022
PB-840-01	PB-840-01-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	0.00068	0.0016	7/8/2022	7/14/2022
PB-840-01	PB-840-01-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0032	7/8/2022	7/14/2022
PB-840-02	PB-840-02-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/8/2022	7/14/2022
PB-840-02	PB-840-02-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/8/2022	7/12/2022
PB-840-02	PB-840-02-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/8/2022	7/12/2022
PB-840-02	PB-840-02-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-02	PB-840-02-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/8/2022	7/12/2022
PB-840-02	PB-840-02-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-02	PB-840-02-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/8/2022	7/12/2022
PB-840-02	PB-840-02-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-02	PB-840-02-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-02	PB-840-02-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-02	PB-840-02-SS01	3	3.5	Lead	SW6010D	Soil	4.66	2.26	7/8/2022	7/15/2022
PB-840-02	PB-840-02-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/8/2022	7/14/2022
PB-840-02	PB-840-02-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	0.00019	0.001	7/8/2022	7/14/2022
PB-840-02	PB-840-02-SS01	3	3.5	Cumene	SW8260C	Soil	0.00034	0.001	7/8/2022	7/14/2022
PB-840-02	PB-840-02-SS01	3	3.5	Benzene	SW8260C	Soil	0.00021	0.00051	7/8/2022	7/14/2022
PB-840-02	PB-840-02-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.0059	0.002	7/8/2022	7/14/2022
PB-840-02	PB-840-02-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/8/2022	7/14/2022
PB-840-02	PB-840-02-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00051	7/8/2022	7/14/2022
PB-840-02	PB-840-02-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.0035	0.002	7/8/2022	7/14/2022
PB-840-02	PB-840-02-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.0025	0.002	7/8/2022	7/14/2022
PB-840-02	PB-840-02-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-03	PB-840-03-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-03	PB-840-03-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-03	PB-840-03-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/8/2022	7/12/2022
PB-840-03	PB-840-03-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-03	PB-840-03-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/8/2022	7/12/2022
PB-840-03	PB-840-03-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-03	PB-840-03-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.19	7/8/2022	7/12/2022
PB-840-03	PB-840-03-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.19	7/8/2022	7/12/2022
PB-840-03	PB-840-03-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.00095	7/8/2022	7/13/2022
PB-840-03	PB-840-03-SS01	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-03	PB-840-03-SS01	4.5	5	Lead	SW6010D	Soil	5.92	2.29	7/8/2022	7/15/2022
PB-840-03	PB-840-03-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.0019	7/8/2022	7/15/2022
PB-840-03	PB-840-03-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-03	PB-840-03-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/8/2022	7/13/2022
PB-840-03	PB-840-03-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00048	7/8/2022	7/13/2022
PB-840-03	PB-840-03-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00095	7/8/2022	7/13/2022
PB-840-03	PB-840-03-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.00062	0.0019	7/8/2022	7/13/2022
PB-840-03	PB-840-03-SS01	4.5	5	Benzene	SW8260C	Soil	ND	0.00048	7/8/2022	7/13/2022
PB-840-03	PB-840-03-SS01	4.5	5	Cumene	SW8260C	Soil	0.00015	0.00095	7/8/2022	7/13/2022
PB-840-03	PB-840-03-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	0.00028	0.00095	7/8/2022	7/13/2022
PB-840-03	PB-840-03-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0019	7/8/2022	7/13/2022
PB-840-04	PB-840-04-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/8/2022	7/13/2022
PB-840-04	PB-840-04-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/8/2022	7/12/2022
PB-840-04	PB-840-04-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/8/2022	7/12/2022
PB-840-04	PB-840-04-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/8/2022	7/12/2022
PB-840-04	PB-840-04-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/8/2022	7/12/2022
PB-840-04	PB-840-04-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/8/2022	7/12/2022
PB-840-04	PB-840-04-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/8/2022	7/12/2022
PB-840-04	PB-840-04-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/8/2022	7/12/2022
PB-840-04	PB-840-04-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/8/2022	7/12/2022
PB-840-04	PB-840-04-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/8/2022	7/12/2022
PB-840-04	PB-840-04-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/8/2022	7/13/2022
PB-840-04	PB-840-04-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/8/2022	7/12/2022
PB-840-04	PB-840-04-SS01	3	3.5	Lead	SW6010D	Soil	10.9	2.02	7/8/2022	7/15/2022
PB-840-04	PB-840-04-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0021	7/8/2022	7/15/2022
PB-840-04	PB-840-04-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00052	7/8/2022	7/13/2022
PB-840-04	PB-840-04-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/8/2022	7/13/2022
PB-840-04	PB-840-04-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/8/2022	7/13/2022
PB-840-04	PB-840-04-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00052	7/8/2022	7/13/2022
PB-840-04	PB-840-04-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	7/8/2022	7/13/2022
PB-840-04	PB-840-04-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/8/2022	7/13/2022
PB-840-04	PB-840-04-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0021	7/8/2022	7/13/2022
PB-840-05	PB-840-05-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0014	7/8/2022	7/14/2022

Table 5 - 053A (PB 840)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-840-05	PB-840-05-SS01	3	3.5	Naphthalene	SW8270D	Soil	0.075	0.18	7/8/2022	7/12/2022
PB-840-05	PB-840-05-SS01	3	3.5	Fluorene	SW8270D	Soil	0.023	0.18	7/8/2022	7/12/2022
PB-840-05	PB-840-05-SS01	3	3.5	Chrysene	SW8270D	Soil	0.056	0.11	7/8/2022	7/12/2022
PB-840-05	PB-840-05-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.025	0.14	7/8/2022	7/12/2022
PB-840-05	PB-840-05-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.053	0.11	7/8/2022	7/12/2022
PB-840-05	PB-840-05-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/8/2022	7/12/2022
PB-840-05	PB-840-05-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.03	0.11	7/8/2022	7/12/2022
PB-840-05	PB-840-05-SS01	3	3.5	Pyrene	SW8270D	Soil	0.056	0.11	7/8/2022	7/12/2022
PB-840-05	PB-840-05-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.073	0.11	7/8/2022	7/12/2022
PB-840-05	PB-840-05-SS01	3	3.5	Lead	SW6010D	Soil	103	2.12	7/8/2022	7/15/2022
PB-840-05	PB-840-05-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0029	7/8/2022	7/14/2022
PB-840-05	PB-840-05-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0014	7/8/2022	7/14/2022
PB-840-05	PB-840-05-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0014	7/8/2022	7/14/2022
PB-840-05	PB-840-05-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00072	7/8/2022	7/14/2022
PB-840-05	PB-840-05-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.00047	0.0029	7/8/2022	7/14/2022
PB-840-05	PB-840-05-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0014	7/8/2022	7/14/2022
PB-840-05	PB-840-05-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00072	7/8/2022	7/14/2022
PB-840-05	PB-840-05-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0029	7/8/2022	7/14/2022
PB-840-05	PB-840-05-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-05	PB-840-05-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0029	7/8/2022	7/12/2022
PB-840-06	PB-840-06-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-06	PB-840-06-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/8/2022	7/12/2022
PB-840-06	PB-840-06-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-06	PB-840-06-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/8/2022	7/12/2022
PB-840-06	PB-840-06-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-06	PB-840-06-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.18	7/8/2022	7/12/2022
PB-840-06	PB-840-06-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.18	7/8/2022	7/12/2022
PB-840-06	PB-840-06-SS01	4.5	5	Pyrene	SW8270D	Soil	0.018	0.11	7/8/2022	7/12/2022
PB-840-06	PB-840-06-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.00093	7/8/2022	7/14/2022
PB-840-06	PB-840-06-SS01	4.5	5	Phenanthrene	SW8270D	Soil	0.049	0.11	7/8/2022	7/12/2022
PB-840-06	PB-840-06-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00046	7/8/2022	7/14/2022
PB-840-06	PB-840-06-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-06	PB-840-06-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/8/2022	7/12/2022
PB-840-06	PB-840-06-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/8/2022	7/14/2022
PB-840-06	PB-840-06-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00093	7/8/2022	7/14/2022
PB-840-06	PB-840-06-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/8/2022	7/14/2022
PB-840-06	PB-840-06-SS01	4.5	5	Benzene	SW8260C	Soil	ND	0.00046	7/8/2022	7/14/2022
PB-840-06	PB-840-06-SS01	4.5	5	Cumene	SW8260C	Soil	0.0016	0.00093	7/8/2022	7/14/2022
PB-840-06	PB-840-06-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	0.00058	0.00093	7/8/2022	7/14/2022
PB-840-06	PB-840-06-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/8/2022	7/14/2022
PB-840-06	PB-840-06-SS01	4.5	5	Lead	SW6010D	Soil	6.05	2.2	7/8/2022	7/15/2022
PB-840-07	PB-840-07-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.019	0.0022	7/8/2022	7/13/2022
PB-840-07	PB-840-07-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/8/2022	7/12/2022
PB-840-07	PB-840-07-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/12/2022
PB-840-07	PB-840-07-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/8/2022	7/12/2022
PB-840-07	PB-840-07-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/8/2022	7/12/2022
PB-840-07	PB-840-07-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/8/2022	7/12/2022
PB-840-07	PB-840-07-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/8/2022	7/12/2022
PB-840-07	PB-840-07-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/8/2022	7/12/2022
PB-840-07	PB-840-07-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/8/2022	7/12/2022
PB-840-07	PB-840-07-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/12/2022
PB-840-07	PB-840-07-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/8/2022	7/12/2022
PB-840-07	PB-840-07-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/8/2022	7/13/2022
PB-840-07	PB-840-07-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.0441	0.0022	7/8/2022	7/13/2022
PB-840-07	PB-840-07-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00056	7/8/2022	7/13/2022
PB-840-07	PB-840-07-SS01	3	3.5	Lead	SW6010D	Soil	4.94	2.26	7/8/2022	7/15/2022
PB-840-07	PB-840-07-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.0056	0.0022	7/8/2022	7/13/2022
PB-840-07	PB-840-07-SS01	3	3.5	Benzene	SW8260C	Soil	0.023	0.00056	7/8/2022	7/13/2022
PB-840-07	PB-840-07-SS01	3	3.5	Cumene	SW8260C	Soil	0.002	0.0011	7/8/2022	7/13/2022
PB-840-07	PB-840-07-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	0.016	0.0011	7/8/2022	7/13/2022
PB-840-07	PB-840-07-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	7/8/2022	7/13/2022
PB-840-07	PB-840-07-SS01	3	3.5	Toluene	SW8260C	Soil	0.00079	0.0011	7/8/2022	7/13/2022
PB-840-08	PB-840-08-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/8/2022	7/13/2022
PB-840-08	PB-840-08-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	7/8/2022	7/13/2022
PB-840-08	PB-840-08-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	7/8/2022	7/12/2022
PB-840-08	PB-840-08-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/8/2022	7/12/2022
PB-840-08	PB-840-08-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/8/2022	7/12/2022
PB-840-08	PB-840-08-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/8/2022	7/12/2022
PB-840-08	PB-840-08-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/8/2022	7/12/2022
PB-840-08	PB-840-08-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/8/2022	7/12/2022
PB-840-08	PB-840-08-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/12/2022
PB-840-08	PB-840-08-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/8/2022	7/12/2022
PB-840-08	PB-840-08-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/8/2022	7/13/2022
PB-840-08	PB-840-08-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/12/2022
PB-840-08	PB-840-08-SS01	3	3.5	Lead	SW6010D	Soil	5.75	2.33	7/8/2022	7/15/2022
PB-840-08	PB-840-08-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/8/2022	7/12/2022
PB-840-08	PB-840-08-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00055	7/8/2022	7/13/2022
PB-840-08	PB-840-08-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/8/2022	7/13/2022
PB-840-08	PB-840-08-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/8/2022	7/13/2022
PB-840-08	PB-840-08-SS01	3	3.5	Benzene	SW8260C	Soil	0.00069	0.00055	7/8/2022	7/13/2022
PB-840-08	PB-840-08-SS01	3	3.5	Cumene	SW8260C	Soil	0.00015	0.0011	7/8/2022	7/13/2022
PB-840-08	PB-840-08-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/8/2022	7/13/2022
PB-840-08	PB-840-08-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	7/8/2022	7/13/2022
PB-840-09	PB-840-09-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	197	0.61	7/8/2022	7/13/2022
PB-840-09	PB-840-09-SS01	4.5	5	Naphthalene	SW8270D	Soil	9.3	1.9	7/8/2022	7/14/2022
PB-840-09	PB-840-09-SS01	4.5	5	Fluorene	SW8270D	Soil	1.9	0.19	7/8/2022	7/12/2022
PB-840-09	PB-840-09-SS01	4.5	5	Chrysene	SW8270D	Soil	0.22	0.12	7/8/2022	7/12/2022
PB-840-09	PB-840-09-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	0.072	0.15	7/8/2022	7/12/2022
PB-840-09	PB-840-09-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	0.12	0.12	7/8/2022	7/12/2022
PB-840-09	PB-840-09-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	0.096	0.15	7/8/2022	7/12/2022
PB-840-09	PB-840-09-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	0.97	0.12	7/8/2022	7/12/2022
PB-840-09	PB-840-09-SS01	4.5	5	Anthracene	SW8270D	Soil	0.16	0.12	7/8/2022	7/12/2022
PB-840-09	PB-840-09-SS01	4.5	5	Phenanthrene	SW8270D	Soil	4.8	0.12	7/8/2022	7/12/2022
PB-840-09	PB-840-09-SS01	4.5	5	Lead	SW6010D	Soil	4.3	2.27	7/8/2022	7/15/2022
PB-840-09	PB-840-09-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	92	1.2	7/8/2022	7/15/2022
PB-840-09	PB-840-09-SS01	4.5	5	Pyrene	SW8270D	Soil	0.48	0.12	7/8/2022	7/12/2022
PB-840-09	PB-840-09-SS01	4.5	5	Toluene	SW8260C	Soil	0.3	0.3	7/8/2022	7/14/2022
PB-840-09	PB-840-09-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.15	7/8/2022	7/14/2022
PB-840-09	PB-840-09-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.3	7/8/2022	7/14/2022
PB-840-09	PB-840-09-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	33	0.61	7/8/2022	7/14/2022
PB-840-09	PB-840-09-SS01	4.5	5	Benzene	SW8260C	Soil	4.4	0.15	7/8/2022	7/14/2022
PB-840-09	PB-840-09-SS01	4.5	5	Cumene	SW8260C	Soil	15	0.3	7/8/2022	7/14/2022
PB-840-09	PB-840-09-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	66	0.3	7/8/2022	7/14/2022
PB-840-09	PB-840-09-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.61	7/8/2022	7/14/2022
PB-840-10	PB-840-10-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-10	PB-840-10-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022

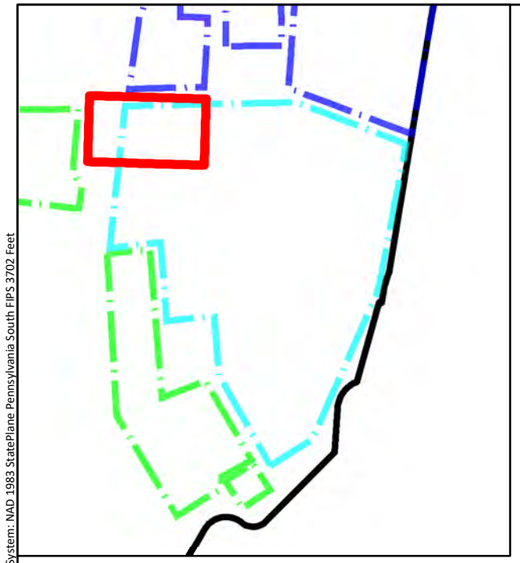
Table 5 - 053A (PB 840)
Sample/Analysis Information (Attachment for Section III.)

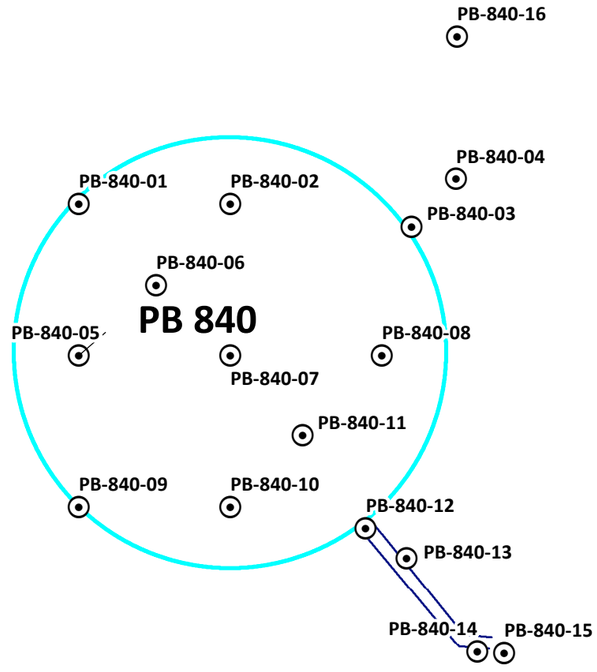
Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-840-10	PB-840-10-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/8/2022	7/12/2022
PB-840-10	PB-840-10-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/8/2022	7/12/2022
PB-840-10	PB-840-10-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-10	PB-840-10-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/8/2022	7/12/2022
PB-840-10	PB-840-10-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-10	PB-840-10-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/8/2022	7/12/2022
PB-840-10	PB-840-10-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-10	PB-840-10-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-10	PB-840-10-SS01	3	3.5	Lead	SW6010D	Soil	5.38	2.25	7/8/2022	7/15/2022
PB-840-10	PB-840-10-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/8/2022	7/14/2022
PB-840-10	PB-840-10-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	7/8/2022	7/14/2022
PB-840-10	PB-840-10-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/8/2022	7/14/2022
PB-840-10	PB-840-10-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	7/8/2022	7/14/2022
PB-840-10	PB-840-10-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00055	7/8/2022	7/14/2022
PB-840-10	PB-840-10-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.0038	0.0022	7/8/2022	7/14/2022
PB-840-10	PB-840-10-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/8/2022	7/14/2022
PB-840-10	PB-840-10-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00055	7/8/2022	7/14/2022
PB-840-10	PB-840-10-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.012	0.0022	7/8/2022	7/14/2022
PB-840-10	PB-840-10-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.02255	0.0022	7/8/2022	7/14/2022
PB-840-11	PB-840-11-SS01	2.5	3	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/12/2022
PB-840-11	PB-840-11-SS01	2.5	3	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/8/2022	7/12/2022
PB-840-11	PB-840-11-SS01	2.5	3	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/8/2022	7/12/2022
PB-840-11	PB-840-11-SS01	2.5	3	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/8/2022	7/12/2022
PB-840-11	PB-840-11-SS01	2.5	3	Chrysene	SW8270D	Soil	0.041	0.12	7/8/2022	7/12/2022
PB-840-11	PB-840-11-SS01	2.5	3	Fluorene	SW8270D	Soil	0.072	0.2	7/8/2022	7/12/2022
PB-840-11	PB-840-11-SS01	2.5	3	Naphthalene	SW8270D	Soil	0.09	0.2	7/8/2022	7/12/2022
PB-840-11	PB-840-11-SS01	2.5	3	Pyrene	SW8270D	Soil	0.031	0.12	7/8/2022	7/12/2022
PB-840-11	PB-840-11-SS01	2.5	3	Toluene	SW8260C	Soil	ND	0.00078	7/8/2022	7/14/2022
PB-840-11	PB-840-11-SS01	2.5	3	Phenanthrene	SW8270D	Soil	0.18	0.12	7/8/2022	7/12/2022
PB-840-11	PB-840-11-SS01	2.5	3	Lead	SW6010D	Soil	7.06	2.36	7/8/2022	7/15/2022
PB-840-11	PB-840-11-SS01	2.5	3	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0016	7/8/2022	7/14/2022
PB-840-11	PB-840-11-SS01	2.5	3	Ethyl Benzene	SW8260C	Soil	0.0097	0.00078	7/8/2022	7/14/2022
PB-840-11	PB-840-11-SS01	2.5	3	Cumene	SW8260C	Soil	0.0058	0.00078	7/8/2022	7/14/2022
PB-840-11	PB-840-11-SS01	2.5	3	Benzene	SW8260C	Soil	0.0084	0.00039	7/8/2022	7/14/2022
PB-840-11	PB-840-11-SS01	2.5	3	1,3,5-Trimethylbenzene	SW8260C	Soil	0.04	0.0016	7/8/2022	7/14/2022
PB-840-11	PB-840-11-SS01	2.5	3	1,2-Dichloroethane	SW8260C	Soil	ND	0.00078	7/8/2022	7/14/2022
PB-840-11	PB-840-11-SS01	2.5	3	1,2-Dibromoethane	SW8260C	Soil	ND	0.00039	7/8/2022	7/14/2022
PB-840-11	PB-840-11-SS01	2.5	3	1,2,4-Trimethylbenzene	SW8260C	Soil	0.072	0.0016	7/8/2022	7/14/2022
PB-840-11	PB-840-11-SS01	2.5	3	Xylenes (total)	SW8260C	Soil	0.0589	0.0016	7/8/2022	7/14/2022
PB-840-11	PB-840-11-SS01	2.5	3	Anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/12/2022
PB-840-12	PB-840-12-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-12	PB-840-12-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/8/2022	7/12/2022
PB-840-12	PB-840-12-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-12	PB-840-12-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/8/2022	7/12/2022
PB-840-12	PB-840-12-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-12	PB-840-12-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/8/2022	7/12/2022
PB-840-12	PB-840-12-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/8/2022	7/12/2022
PB-840-12	PB-840-12-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-12	PB-840-12-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-12	PB-840-12-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-12	PB-840-12-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/8/2022	7/14/2022
PB-840-12	PB-840-12-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0021	7/8/2022	7/14/2022
PB-840-12	PB-840-12-SS01	3	3.5	Lead	SW6010D	Soil	5.21	2.26	7/8/2022	7/15/2022
PB-840-12	PB-840-12-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00053	7/8/2022	7/14/2022
PB-840-12	PB-840-12-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/8/2022	7/14/2022
PB-840-12	PB-840-12-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/8/2022	7/14/2022
PB-840-12	PB-840-12-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00053	7/8/2022	7/14/2022
PB-840-12	PB-840-12-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	7/8/2022	7/14/2022
PB-840-12	PB-840-12-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/8/2022	7/14/2022
PB-840-12	PB-840-12-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0021	7/8/2022	7/14/2022
PB-840-12	PB-840-12-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/8/2022	7/14/2022
PB-840-13	PB-840-13-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	7/8/2022	7/14/2022
PB-840-13	PB-840-13-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-13	PB-840-13-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/8/2022	7/12/2022
PB-840-13	PB-840-13-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/8/2022	7/12/2022
PB-840-13	PB-840-13-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-13	PB-840-13-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/8/2022	7/12/2022
PB-840-13	PB-840-13-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-13	PB-840-13-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/8/2022	7/12/2022
PB-840-13	PB-840-13-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-13	PB-840-13-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-13	PB-840-13-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/8/2022	7/14/2022
PB-840-13	PB-840-13-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-13	PB-840-13-SS01	3	3.5	Lead	SW6010D	Soil	6.78	2.1	7/8/2022	7/15/2022
PB-840-13	PB-840-13-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0024	7/8/2022	7/15/2022
PB-840-13	PB-840-13-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00059	7/8/2022	7/14/2022
PB-840-13	PB-840-13-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/8/2022	7/14/2022
PB-840-13	PB-840-13-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/8/2022	7/14/2022
PB-840-13	PB-840-13-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00059	7/8/2022	7/14/2022
PB-840-13	PB-840-13-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	7/8/2022	7/14/2022
PB-840-13	PB-840-13-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/8/2022	7/14/2022
PB-840-13	PB-840-13-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0024	7/8/2022	7/14/2022
PB-840-14	PB-840-14-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/8/2022	7/14/2022
PB-840-14	PB-840-14-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/8/2022	7/12/2022
PB-840-14	PB-840-14-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/8/2022	7/12/2022
PB-840-14	PB-840-14-SS01	3	3.5	Chrysene	SW8270D	Soil	0.17	0.11	7/8/2022	7/12/2022
PB-840-14	PB-840-14-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.099	0.14	7/8/2022	7/12/2022
PB-840-14	PB-840-14-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.22	0.11	7/8/2022	7/12/2022
PB-840-14	PB-840-14-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	0.18	0.14	7/8/2022	7/12/2022
PB-840-14	PB-840-14-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.18	0.11	7/8/2022	7/12/2022
PB-840-14	PB-840-14-SS01	3	3.5	Pyrene	SW8270D	Soil	0.28	0.11	7/8/2022	7/12/2022
PB-840-14	PB-840-14-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.17	0.11	7/8/2022	7/12/2022
PB-840-14	PB-840-14-SS01	3	3.5	Lead	SW6010D	Soil	44.4	2.09	7/8/2022	7/15/2022
PB-840-14	PB-840-14-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	7/8/2022	7/14/2022
PB-840-14	PB-840-14-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/8/2022	7/14/2022
PB-840-14	PB-840-14-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	7/8/2022	7/14/2022
PB-840-14	PB-840-14-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00054	7/8/2022	7/14/2022
PB-840-14	PB-840-14-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/8/2022	7/14/2022
PB-840-14	PB-840-14-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/8/2022	7/14/2022
PB-840-14	PB-840-14-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00054	7/8/2022	7/14/2022
PB-840-14	PB-840-14-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/8/2022	7/14/2022
PB-840-14	PB-840-14-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/12/2022
PB-840-14	PB-840-14-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	7/8/2022	7/12/2022
PB-840-15	PB-840-15-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.48	0.11	7/8/2022	7/12/2022
PB-840-15	PB-840-15-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	0.46	0.14	7/8/2022	7/12/2022
PB-840-15	PB-840-15-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.57	0.11	7/8/2022	7/12/2022

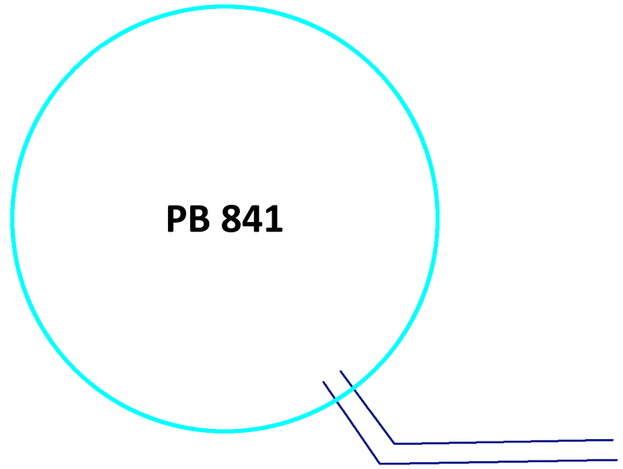
Table 5 - 053A (PB 840)
Sample/Analysis Information (Attachment for Section III.)

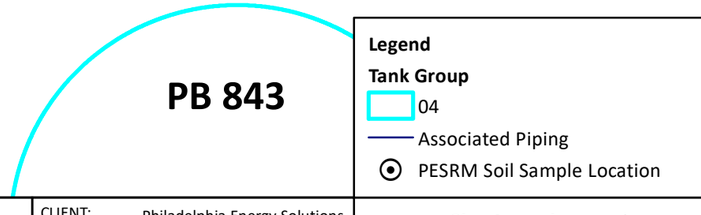
Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-840-15	PB-840-15-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.22	0.14	7/8/2022	7/12/2022
PB-840-15	PB-840-15-SS01	3	3.5	Chrysene	SW8270D	Soil	0.44	0.11	7/8/2022	7/12/2022
PB-840-15	PB-840-15-SS01	3	3.5	Fluorene	SW8270D	Soil	0.05	0.18	7/8/2022	7/12/2022
PB-840-15	PB-840-15-SS01	3	3.5	Naphthalene	SW8270D	Soil	0.091	0.18	7/8/2022	7/12/2022
PB-840-15	PB-840-15-SS01	3	3.5	Pyrene	SW8270D	Soil	0.68	0.11	7/8/2022	7/12/2022
PB-840-15	PB-840-15-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/8/2022	7/15/2022
PB-840-15	PB-840-15-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.41	0.11	7/8/2022	7/12/2022
PB-840-15	PB-840-15-SS01	3	3.5	Lead	SW6010D	Soil	49.2	4.3	7/8/2022	7/15/2022
PB-840-15	PB-840-15-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	7/8/2022	7/15/2022
PB-840-15	PB-840-15-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/8/2022	7/15/2022
PB-840-15	PB-840-15-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	7/8/2022	7/15/2022
PB-840-15	PB-840-15-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00055	7/8/2022	7/15/2022
PB-840-15	PB-840-15-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/8/2022	7/15/2022
PB-840-15	PB-840-15-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/8/2022	7/15/2022
PB-840-15	PB-840-15-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00055	7/8/2022	7/15/2022
PB-840-15	PB-840-15-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/8/2022	7/15/2022
PB-840-15	PB-840-15-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	7/8/2022	7/15/2022
PB-840-15	PB-840-15-SS01	3	3.5	Anthracene	SW8270D	Soil	0.11	0.11	7/8/2022	7/12/2022
PB-840-16	PB-840-16-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.12	0.11	7/8/2022	7/11/2022
PB-840-16	PB-840-16-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	0.14	0.15	7/8/2022	7/11/2022
PB-840-16	PB-840-16-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.18	0.11	7/8/2022	7/11/2022
PB-840-16	PB-840-16-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.098	0.15	7/8/2022	7/11/2022
PB-840-16	PB-840-16-SS01	3	3.5	Chrysene	SW8270D	Soil	0.13	0.11	7/8/2022	7/11/2022
PB-840-16	PB-840-16-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/8/2022	7/11/2022
PB-840-16	PB-840-16-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/8/2022	7/11/2022
PB-840-16	PB-840-16-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.14	0.11	7/8/2022	7/11/2022
PB-840-16	PB-840-16-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/11/2022
PB-840-16	PB-840-16-SS01	3	3.5	Pyrene	SW8270D	Soil	0.18	0.11	7/8/2022	7/11/2022
PB-840-16	PB-840-16-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/8/2022	7/15/2022
PB-840-16	PB-840-16-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/8/2022	7/15/2022
PB-840-16	PB-840-16-SS01	3	3.5	Lead	SW6010D	Soil	53.1	2.22	7/8/2022	7/15/2022
PB-840-16	PB-840-16-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00044	7/8/2022	7/15/2022
PB-840-16	PB-840-16-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00089	7/8/2022	7/15/2022
PB-840-16	PB-840-16-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/8/2022	7/15/2022
PB-840-16	PB-840-16-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00044	7/8/2022	7/15/2022
PB-840-16	PB-840-16-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00089	7/8/2022	7/15/2022
PB-840-16	PB-840-16-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00089	7/8/2022	7/15/2022
PB-840-16	PB-840-16-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/8/2022	7/15/2022
PB-840-16	PB-840-16-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00089	7/8/2022	7/15/2022

Notes:
SS -- Soil Sample.
DUP-38 is a field duplicate associated with sample PB-840-01-SS01.









Legend

Tank Group

04

Associated Piping

PESRM Soil Sample Location

0 50 100 Feet

1 inch = 50 feet

N

SAFETY FIRST

terraphase engineering

CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

Site Location and Sampling Map 053A (PB 840)

Figure 5

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For AST Closure Report\Figure 5 - 053A (PB 840).mxd 12/30/2022 Created by: JD Checked by: Initial Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

Photograph 1:

View of Tank 053A (PB 840) during demolition.

Photograph 2:

View of Tank 053A (PB 840) during demolition.

Photograph 3:

View of scrap piles during demolition.

Photograph 4:

View of soil following demolition.

Product Movement and Waste Disposal Documentation (Tank 053A)

NorthStar Contracting Group, Inc.

PES Project Load Ticket

Load Ticket: 18662

Date: 03-02-22

S120103.

Scrap

Sold to: Keystone Allegheny

Location: TANK 840

Carrier: Allegheny

Steel / Ferrous

- ☐ No. 1 P+S
- ☐ No. 2 Heavy Melt
- ☐ Cast Iron
- ☐ Mixed
- ☐ Pipe
- ☐ Light Iron
- ☐ Re-Bar
- ☐ Other Tank Plate

Non-Ferrous

- ☐ Insulated Copper Wire
- ☐ No. 1 Copper Wire
- ☐ Brass
- ☐ Aluminum
- ☐ Stainless, Grade_____
- ☐ Other Alloy, Grade_____
- ☐ Mixed
- ☐ Other: _____

Condition

- ☐ Prepared
- ☐ Unprepared
- ☐ Green Waste
- ☐ Concrete
- ☐ Masonry
- ☐ Mixed Masonry
- ☐ Wood Only
- ☐ Demo Debris (C&D)
- ☐ Dirt / Fill
- ☐ Sand Fill
- ☐ Crushed Stone
- ☐ Other:_____

Scale Ticket #:_____

Gross Weight: 94120 lbs

Tare Weight: 38760 lbs

Net Weight: 55460 lbs

NorthStar Rep. Signature: _____

Received By: _____

Non-Haz / ACM / Special Waste

Activity Location:_____

Waste Stream

- ☐ C&D Demolition Debris
- ☐ Non-Friable ACM
- ☐ Friable ACM
- ☐ PB WWTP Sludge
- ☐ GP WWTP Sludge
- ☐ Characteristic Haz Waste (flammable D001, corrosive D002, reactive D003, toxicity D004 –D043)
- ☐ Process Haz Waste
- ☐ Demo Debris (C&D)
- ☐ Non-Haz Waste (Solid)
- ☐ Non-Haz Waste (Liquid)
- ☐ PCB (Non-TSCA)
- ☐ PCB (TSCA)

Disposal Facility:_____

Carrier:_____

Truck #:_____

Container #:_____

Manifest #:_____

Profile / Approval #:_____

Scale Info

Scale Ticket #:_____

Gross Weight:_____

Tare weight:_____

Net weight:_____

Net Kilogram Conversion (PCB Only):_____

NorthStar Rep. Signature:_____

HILCO REDEVELOPEMENT PARTNERS
3144 W. PASSYUNK AVE

PHILADELPHIA PA, 19145

Ticket #: 20034677
Date: 03/02/2022 7:45 AM
Phone: ( ) -
Fax: ( ) -

Customer: HILCO
HILCO

Order Number: 001
SCRAP REMOVAL
Tons: 129624.956
Loads: 8451

DT261-2 - ALLEGHENY TRUCK 261 W/TRAILER 2
CARLAD - CARLA DAVILA

Remarks: SCRAP REMOVAL

Signature: _____

Material	Quantity	Price	Material $	Delivery $	Misc $	Tax $	Line Total $
SCRAP	25.33 tn						

Weight Information

Material	Gross	Tare	Net
SCRAP	89420.00	38760.00	50660.00

1992

ABOVEGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

SECTION III. Site Assessment Information

Tank Registration # 054A (complete one sheet for EACH tank system and attach ALL laboratory sheets pertaining to that system)

Facility ID Number 51 - 33620

A. Provide depth of *BEDROCK* and *WATER* IF encountered during excavation or soil boring (write "N/A": if NOT encountered).

Bedrock N/A feet below land surface Water 15 feet below land surface

B. Provide Length of *PIPING* IF piping was closed-in-place (write "N/A" if NOT closed-in-place).

Length of piping N/A feet

C. TANK SYSTEM REMOVED FROM THE GROUND/SITE

1). Was obvious contamination observed while excavating, sampling or removing the tank system?

☒ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records ----→ Do not complete item C.2. below.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

_____

_____

_____

_____ ----→ Complete item C.2. below.

2). Was contamination localized (within three feet of the tank system in every direction with no obvious water contamination)?

☐ YES ----→ Remove or remediate contaminated soil ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ NO ----→ Continue Interim Remedial Actions ----→ See end of this section for options on submission and maintenance of closure records.

D. TANK SYSTEM CLOSED-IN-PLACE OR CHANGED-IN-SERVICE

Was obvious contamination observed during sampling, boring or assessing water depths?

☐ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

_____

_____

_____

Continue with corrective action ----→ See end of this section for options on submission and maintenance of closure records.

E. If the answer to C.1. is "no", the answer to C.2. is "yes" or the answer to D. is "no", confirmatory samples are required. Use the sample/analysis information sheet on page 10 of 11 to provide the information on confirmatory sampling and complete the diagram on Page 11 of 11.

Options for Submission and Maintenance of Closure Site Assessment Records

Records of the site assessment must be maintained for at least three years after completion of permanent closure or change-in-service in one of the following ways:

(a) By the owners and operators who took the tank system out of service;
(b) By the current owners and operators of the tank system site; or
(c) By mailing these records to the DEP regional office responsible for the county in which the tank is located if they cannot be maintained at the closed facility.

Where the results of the site assessment indicate that obvious, localized soil contamination was encountered and the analytical results of the confirmatory sampling show levels below the statewide standard/action levels, this closure report form (Sections I, II, and III) or some other acceptable site characterization report must be received by the Department within 180 days of verbally reporting the release.

Where the results of the site assessment indicate that no obvious contamination or obvious, localized contamination was encountered, but the analytical results of the confirmatory sampling show levels above the statewide standard/action levels, or where there is obvious, extensive contamination, Section 245.310(a)(8) of the Corrective Action Process (CAP) regulations requires that details of removal from service be included in the site characterization report. A copy of the completed closure report form should be submitted as part of the site characterization report to satisfy the requirements of Section 245.310(a)(8) of the CAP regulations.

I, Kevin Long , hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating to unsworn
(Print Name)
falsification to authorities) that I am the person who performed the site assessment activities associated with the closure of the above referenced storage tank system(s) and that the information provided by me in this closure report (Section III) is true, accurate and complete to the best of my knowledge and belief.

Kevin L. Long

Signature of Person Performing Site Assessment

2 / 1 / 2023
Date

Principal Consultant
Title of Person Performing Site Assessment

Terraphase Engineering, Inc.
Name of Company Performing Site Assessment

609-236-8171 x93
Telephone Number of Person Performing Site Assessment

ABOVEGROUND STORAGE TANK SYSTEM
CLOSURE REPORT FORM

Sample/Analysis Information
(Attachment for Section III.)

Facility ID Number 51 - 33620

Sample I.D. (See diagram)	Parameter	Analytical Method[1]		Media	Result (units)	Detection Limit (units)	Date Sample Taken	Date Sample Analyzed
See attached summary table							/ /	/ /
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[1] Where EPA Method 5035 is used, indicate sample collection option in the right-hand box of this column using the following codes:

P - Samples placed in a soil sample vial with a preservative present.
E - Samples collected and stored in a soil collection device which is airtight and affords little to no headspace.

N - Samples placed in soil sample vial without a preservative present.

Site Location and Sampling Map - Use this page or suitable facsimile to provide a large-scale map of the site where storage tank systems were closed. Scales between 1" = 10 and 1" = 100 feet frequently work well. Include the following information as each applies to the site: facility name and I.D., county, township or borough, property boundaries or area of interest, buildings, roads and streets with names or route numbers, utilities, location and ID number of storage tank systems removed including piping and dispensers, soil stockpile locations, excavations or other locations of product recovery, north arrow, approximate map scale and legend. Also, show depth and location of samples with sample ID numbers cross-referenced to the same ID numbers shown on Page 10 of 11.

Facility Name and ID: -

County:

Township/Borough: See attached Figure

Table 6 - 054A (PB 841)

Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-841-01	PB-841-01-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0013	7/12/2022	7/15/2022
PB-841-01	PB-841-01-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-01	PB-841-01-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-841-01	PB-841-01-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-841-01	PB-841-01-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-01	PB-841-01-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-841-01	PB-841-01-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-01	PB-841-01-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-841-01	PB-841-01-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-01	PB-841-01-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-01	PB-841-01-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0025	7/12/2022	7/15/2022
PB-841-01	PB-841-01-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-01	PB-841-01-SS01	3	3.5	Lead	SW6010D	Soil	3.27	2.07	7/12/2022	7/18/2022
PB-841-01	PB-841-01-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0025	7/12/2022	7/18/2022
PB-841-01	PB-841-01-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00064	7/12/2022	7/15/2022
PB-841-01	PB-841-01-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0013	7/12/2022	7/15/2022
PB-841-01	PB-841-01-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0025	7/12/2022	7/15/2022
PB-841-01	PB-841-01-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00064	7/12/2022	7/15/2022
PB-841-01	PB-841-01-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0013	7/12/2022	7/15/2022
PB-841-01	PB-841-01-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0013	7/12/2022	7/15/2022
PB-841-01	PB-841-01-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0025	7/12/2022	7/15/2022
PB-841-02	PB-841-02-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-841-02	PB-841-02-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-02	PB-841-02-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-841-02	PB-841-02-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-841-02	PB-841-02-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-02	PB-841-02-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-841-02	PB-841-02-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-02	PB-841-02-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-841-02	PB-841-02-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-02	PB-841-02-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-02	PB-841-02-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/12/2022	7/15/2022
PB-841-02	PB-841-02-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-02	PB-841-02-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0024	7/12/2022	7/14/2022
PB-841-02	PB-841-02-SS01	3	3.5	Lead	SW6010D	Soil	3.32	1.98	7/12/2022	7/18/2022
PB-841-02	PB-841-02-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0006	7/12/2022	7/15/2022
PB-841-02	PB-841-02-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-841-02	PB-841-02-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/12/2022	7/15/2022
PB-841-02	PB-841-02-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0006	7/12/2022	7/15/2022
PB-841-02	PB-841-02-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-841-02	PB-841-02-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-841-02	PB-841-02-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0024	7/12/2022	7/15/2022
PB-841-03	PB-841-03-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/12/2022	7/15/2022
PB-841-03	PB-841-03-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-841-03	PB-841-03-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-841-03	PB-841-03-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-03	PB-841-03-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.13	7/12/2022	7/14/2022
PB-841-03	PB-841-03-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-03	PB-841-03-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.13	7/12/2022	7/14/2022
PB-841-03	PB-841-03-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-03	PB-841-03-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-03	PB-841-03-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-03	PB-841-03-SS01	3	3.5	Lead	SW6010D	Soil	3.07	2.01	7/12/2022	7/18/2022
PB-841-03	PB-841-03-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0021	7/12/2022	7/15/2022
PB-841-03	PB-841-03-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/12/2022	7/15/2022
PB-841-03	PB-841-03-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	7/12/2022	7/15/2022
PB-841-03	PB-841-03-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00054	7/12/2022	7/15/2022
PB-841-03	PB-841-03-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/12/2022	7/15/2022
PB-841-03	PB-841-03-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/12/2022	7/15/2022
PB-841-03	PB-841-03-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00054	7/12/2022	7/15/2022
PB-841-03	PB-841-03-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/12/2022	7/15/2022
PB-841-03	PB-841-03-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0021	7/12/2022	7/15/2022
PB-841-03	PB-841-03-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-04	PB-841-04-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-04	PB-841-04-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-04	PB-841-04-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-841-04	PB-841-04-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-04	PB-841-04-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-841-04	PB-841-04-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-04	PB-841-04-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-841-04	PB-841-04-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-841-04	PB-841-04-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00078	7/12/2022	7/15/2022
PB-841-04	PB-841-04-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-04	PB-841-04-SS01	3	3.5	Lead	SW6010D	Soil	5.88	2	7/12/2022	7/18/2022
PB-841-04	PB-841-04-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0016	7/12/2022	7/18/2022
PB-841-04	PB-841-04-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-04	PB-841-04-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0016	7/12/2022	7/15/2022
PB-841-04	PB-841-04-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00039	7/12/2022	7/15/2022
PB-841-04	PB-841-04-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00078	7/12/2022	7/15/2022
PB-841-04	PB-841-04-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0016	7/12/2022	7/15/2022
PB-841-04	PB-841-04-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00039	7/12/2022	7/15/2022
PB-841-04	PB-841-04-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00078	7/12/2022	7/15/2022
PB-841-04	PB-841-04-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00078	7/12/2022	7/15/2022
PB-841-04	PB-841-04-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0016	7/12/2022	7/15/2022
PB-841-05	PB-841-05-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-841-05	PB-841-05-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-05	PB-841-05-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-841-05	PB-841-05-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-841-05	PB-841-05-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-05	PB-841-05-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.13	7/12/2022	7/14/2022
PB-841-05	PB-841-05-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-05	PB-841-05-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.13	7/12/2022	7/14/2022
PB-841-05	PB-841-05-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-05	PB-841-05-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-05	PB-841-05-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/12/2022	7/15/2022
PB-841-05	PB-841-05-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-05	PB-841-05-SS01	3	3.5	Lead	SW6010D	Soil	3.54	2	7/12/2022	7/18/2022
PB-841-05	PB-841-05-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0024	7/12/2022	7/15/2022
PB-841-05	PB-841-05-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0006	7/12/2022	7/15/2022
PB-841-05	PB-841-05-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-841-05	PB-841-05-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/12/2022	7/15/2022
PB-841-05	PB-841-05-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0006	7/12/2022	7/15/2022
PB-841-05	PB-841-05-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-841-05	PB-841-05-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-841-05	PB-841-05-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0024	7/12/2022	7/15/2022
PB-841-06	PB-841-06-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-841-06	PB-841-06-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/12/2022	7/15/2022
PB-841-06	PB-841-06-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/12/2022	7/15/2022

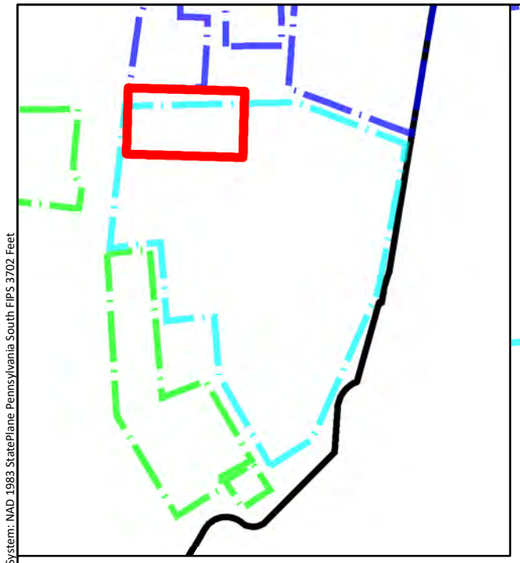
Table 6 - 054A (PB 841)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-841-06	PB-841-06-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/12/2022	7/15/2022
PB-841-06	PB-841-06-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/12/2022	7/15/2022
PB-841-06	PB-841-06-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/12/2022	7/15/2022
PB-841-06	PB-841-06-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/12/2022	7/15/2022
PB-841-06	PB-841-06-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/12/2022	7/15/2022
PB-841-06	PB-841-06-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/12/2022	7/15/2022
PB-841-06	PB-841-06-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/12/2022	7/15/2022
PB-841-06	PB-841-06-SS01	3	3.5	Lead	SW6010D	Soil	4.07	2.21	7/12/2022	7/18/2022
PB-841-06	PB-841-06-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0024	7/12/2022	7/15/2022
PB-841-06	PB-841-06-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-841-06	PB-841-06-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-841-06	PB-841-06-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00059	7/12/2022	7/15/2022
PB-841-06	PB-841-06-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/12/2022	7/15/2022
PB-841-06	PB-841-06-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-841-06	PB-841-06-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00059	7/12/2022	7/15/2022
PB-841-06	PB-841-06-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/12/2022	7/15/2022
PB-841-06	PB-841-06-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/12/2022	7/15/2022
PB-841-06	PB-841-06-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0024	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.037	0.12	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.21	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.21	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	Pyrene	SW8270D	Soil	0.038	0.12	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0017	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.032	0.12	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00087	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0035	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0035	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0017	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0035	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00087	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0017	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0017	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0035	7/12/2022	7/15/2022
PB-841-07	PB-841-07-SS01	3	3.5	Lead	SW6010D	Soil	8.11	2.48	7/12/2022	7/18/2022
PB-841-08	PB-841-08-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/15/2022
PB-841-08	PB-841-08-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/12/2022	7/15/2022
PB-841-08	PB-841-08-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/15/2022
PB-841-08	PB-841-08-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/12/2022	7/15/2022
PB-841-08	PB-841-08-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/12/2022	7/15/2022
PB-841-08	PB-841-08-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/12/2022	7/15/2022
PB-841-08	PB-841-08-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/12/2022	7/15/2022
PB-841-08	PB-841-08-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/12/2022	7/15/2022
PB-841-08	PB-841-08-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/12/2022	7/15/2022
PB-841-08	PB-841-08-SS01	3	3.5	Lead	SW6010D	Soil	5	2.04	7/12/2022	7/18/2022
PB-841-08	PB-841-08-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/12/2022	7/15/2022
PB-841-08	PB-841-08-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0026	7/12/2022	7/15/2022
PB-841-08	PB-841-08-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00065	7/12/2022	7/15/2022
PB-841-08	PB-841-08-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0026	7/12/2022	7/15/2022
PB-841-08	PB-841-08-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0013	7/12/2022	7/15/2022
PB-841-08	PB-841-08-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0026	7/12/2022	7/15/2022
PB-841-08	PB-841-08-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00065	7/12/2022	7/15/2022
PB-841-08	PB-841-08-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0013	7/12/2022	7/15/2022
PB-841-08	PB-841-08-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0013	7/12/2022	7/15/2022
PB-841-08	PB-841-08-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0026	7/12/2022	7/15/2022
PB-841-08	PB-841-08-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0013	7/12/2022	7/15/2022
PB-841-09	DUP-42	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	7/12/2022	7/16/2022
PB-841-09	DUP-42	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-09	DUP-42	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-09	DUP-42	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-841-09	DUP-42	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-841-09	DUP-42	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-09	DUP-42	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.13	7/12/2022	7/14/2022
PB-841-09	DUP-42	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-09	DUP-42	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.13	7/12/2022	7/14/2022
PB-841-09	DUP-42	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-09	DUP-42	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00059	7/12/2022	7/16/2022
PB-841-09	DUP-42	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-09	DUP-42	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/12/2022	7/16/2022
PB-841-09	DUP-42	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0024	7/12/2022	7/16/2022
PB-841-09	DUP-42	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/12/2022	7/16/2022
PB-841-09	DUP-42	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/12/2022	7/16/2022
PB-841-09	DUP-42	3	3.5	Benzene	SW8260C	Soil	ND	0.00059	7/12/2022	7/16/2022
PB-841-09	DUP-42	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	7/12/2022	7/16/2022
PB-841-09	DUP-42	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/12/2022	7/16/2022
PB-841-09	DUP-42	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0024	7/12/2022	7/16/2022
PB-841-09	DUP-42	3	3.5	Lead	SW6010D	Soil	3.6	2	7/12/2022	7/18/2022
PB-841-09	PB-841-09-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0027	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.22	0.11	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	Pyrene	SW8270D	Soil	0.35	0.11	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.2	0.11	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	Fluorene	SW8270D	Soil	0.026	0.19	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	Chrysene	SW8270D	Soil	0.22	0.11	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.11	0.15	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.28	0.11	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	0.23	0.15	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0014	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	Anthracene	SW8270D	Soil	0.062	0.11	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0055	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0055	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0027	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0055	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0014	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0027	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0027	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0055	7/12/2022	7/15/2022
PB-841-09	PB-841-09-SS01	3	3.5	Lead	SW6010D	Soil	5	2.17	7/12/2022	7/18/2022
PB-841-10	PB-841-10-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-841-10	PB-841-10-SS01	4	4.5	Pyrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022

Table 6 - 054A (PB 841)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-841-10	PB-841-10-SS01	4	4.5	Naphthalene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-841-10	PB-841-10-SS01	4	4.5	Fluorene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-841-10	PB-841-10-SS01	4	4.5	Chrysene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-10	PB-841-10-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-841-10	PB-841-10-SS01	4	4.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-10	PB-841-10-SS01	4	4.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-841-10	PB-841-10-SS01	4	4.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-10	PB-841-10-SS01	4	4.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-10	PB-841-10-SS01	4	4.5	Lead	SW6010D	Soil	2.76	2.02	7/12/2022	7/18/2022
PB-841-10	PB-841-10-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0024	7/12/2022	7/15/2022
PB-841-10	PB-841-10-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-841-10	PB-841-10-SS01	4	4.5	Cumene	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-841-10	PB-841-10-SS01	4	4.5	Benzene	SW8260C	Soil	ND	0.00061	7/12/2022	7/15/2022
PB-841-10	PB-841-10-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/12/2022	7/15/2022
PB-841-10	PB-841-10-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-841-10	PB-841-10-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00061	7/12/2022	7/15/2022
PB-841-10	PB-841-10-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/12/2022	7/15/2022
PB-841-10	PB-841-10-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	ND	0.0024	7/12/2022	7/15/2022
PB-841-10	PB-841-10-SS01	4	4.5	Anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-11	PB-841-11-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-841-11	PB-841-11-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-11	PB-841-11-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-841-11	PB-841-11-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-11	PB-841-11-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.18	7/12/2022	7/14/2022
PB-841-11	PB-841-11-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.18	7/12/2022	7/14/2022
PB-841-11	PB-841-11-SS01	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-11	PB-841-11-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-11	PB-841-11-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.0014	7/12/2022	7/15/2022
PB-841-11	PB-841-11-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-11	PB-841-11-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00069	7/12/2022	7/15/2022
PB-841-11	PB-841-11-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.0028	7/12/2022	7/15/2022
PB-841-11	PB-841-11-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0028	7/12/2022	7/15/2022
PB-841-11	PB-841-11-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0014	7/12/2022	7/15/2022
PB-841-11	PB-841-11-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0028	7/12/2022	7/15/2022
PB-841-11	PB-841-11-SS01	4.5	5	Benzene	SW8260C	Soil	ND	0.00069	7/12/2022	7/15/2022
PB-841-11	PB-841-11-SS01	4.5	5	Cumene	SW8260C	Soil	ND	0.0014	7/12/2022	7/15/2022
PB-841-11	PB-841-11-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	ND	0.0014	7/12/2022	7/15/2022
PB-841-11	PB-841-11-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0028	7/12/2022	7/15/2022
PB-841-11	PB-841-11-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-841-11	PB-841-11-SS01	4.5	5	Lead	SW6010D	Soil	2.51	2.06	7/12/2022	7/18/2022
PB-841-12	PB-841-12-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00092	7/12/2022	7/17/2022
PB-841-12	PB-841-12-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/12/2022	7/15/2022
PB-841-12	PB-841-12-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/12/2022	7/15/2022
PB-841-12	PB-841-12-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/12/2022	7/15/2022
PB-841-12	PB-841-12-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/12/2022	7/15/2022
PB-841-12	PB-841-12-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/12/2022	7/15/2022
PB-841-12	PB-841-12-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/12/2022	7/15/2022
PB-841-12	PB-841-12-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/12/2022	7/15/2022
PB-841-12	PB-841-12-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/12/2022	7/15/2022
PB-841-12	PB-841-12-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/12/2022	7/15/2022
PB-841-12	PB-841-12-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/12/2022	7/17/2022
PB-841-12	PB-841-12-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/12/2022	7/15/2022
PB-841-12	PB-841-12-SS01	3	3.5	Lead	SW6010D	Soil	3.72	2.24	7/12/2022	7/18/2022
PB-841-12	PB-841-12-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/12/2022	7/17/2022
PB-841-12	PB-841-12-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00046	7/12/2022	7/17/2022
PB-841-12	PB-841-12-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00092	7/12/2022	7/17/2022
PB-841-12	PB-841-12-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/12/2022	7/17/2022
PB-841-12	PB-841-12-SS01	3	3.5	Benzene	SW8260C	Soil	0.0002	0.00046	7/12/2022	7/17/2022
PB-841-12	PB-841-12-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00092	7/12/2022	7/17/2022
PB-841-12	PB-841-12-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00092	7/12/2022	7/17/2022
PB-841-12	PB-841-12-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/12/2022	7/17/2022
PB-841-13	PB-841-13-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0017	7/12/2022	7/16/2022
PB-841-13	PB-841-13-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/12/2022	7/19/2022
PB-841-13	PB-841-13-SS01	3	3.5	Fluorene	SW8270D	Soil	0.036	0.18	7/12/2022	7/19/2022
PB-841-13	PB-841-13-SS01	3	3.5	Chrysene	SW8270D	Soil	0.21	0.11	7/12/2022	7/19/2022
PB-841-13	PB-841-13-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.14	0.14	7/12/2022	7/19/2022
PB-841-13	PB-841-13-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.26	0.11	7/12/2022	7/19/2022
PB-841-13	PB-841-13-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	0.22	0.14	7/12/2022	7/19/2022
PB-841-13	PB-841-13-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.24	0.11	7/12/2022	7/19/2022
PB-841-13	PB-841-13-SS01	3	3.5	Pyrene	SW8270D	Soil	0.41	0.11	7/12/2022	7/19/2022
PB-841-13	PB-841-13-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.39	0.11	7/12/2022	7/19/2022
PB-841-13	PB-841-13-SS01	3	3.5	Lead	SW6010D	Soil	93.9	2.1	7/12/2022	7/18/2022
PB-841-13	PB-841-13-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0035	7/12/2022	7/16/2022
PB-841-13	PB-841-13-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0017	7/12/2022	7/16/2022
PB-841-13	PB-841-13-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0017	7/12/2022	7/16/2022
PB-841-13	PB-841-13-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00086	7/12/2022	7/16/2022
PB-841-13	PB-841-13-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0035	7/12/2022	7/16/2022
PB-841-13	PB-841-13-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0017	7/12/2022	7/16/2022
PB-841-13	PB-841-13-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00086	7/12/2022	7/16/2022
PB-841-13	PB-841-13-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0035	7/12/2022	7/16/2022
PB-841-13	PB-841-13-SS01	3	3.5	Anthracene	SW8270D	Soil	0.088	0.11	7/12/2022	7/19/2022
PB-841-13	PB-841-13-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0035	7/12/2022	7/16/2022
PB-841-14	PB-841-14-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.035	0.11	7/12/2022	7/19/2022
PB-841-14	PB-841-14-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	0.044	0.14	7/12/2022	7/19/2022
PB-841-14	PB-841-14-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.061	0.11	7/12/2022	7/19/2022
PB-841-14	PB-841-14-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.039	0.14	7/12/2022	7/19/2022
PB-841-14	PB-841-14-SS01	3	3.5	Chrysene	SW8270D	Soil	0.044	0.11	7/12/2022	7/19/2022
PB-841-14	PB-841-14-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/12/2022	7/19/2022
PB-841-14	PB-841-14-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/12/2022	7/19/2022
PB-841-14	PB-841-14-SS01	3	3.5	Pyrene	SW8270D	Soil	0.054	0.11	7/12/2022	7/19/2022
PB-841-14	PB-841-14-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	7/12/2022	7/16/2022
PB-841-14	PB-841-14-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.032	0.11	7/12/2022	7/19/2022
PB-841-14	PB-841-14-SS01	3	3.5	Lead	SW6010D	Soil	38.9	2.08	7/12/2022	7/18/2022
PB-841-14	PB-841-14-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0023	7/12/2022	7/16/2022
PB-841-14	PB-841-14-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/12/2022	7/16/2022
PB-841-14	PB-841-14-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	7/12/2022	7/16/2022
PB-841-14	PB-841-14-SS01	3	3.5	Benzene	SW8260C	Soil	0.00032	0.00058	7/12/2022	7/16/2022
PB-841-14	PB-841-14-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0023	7/12/2022	7/16/2022
PB-841-14	PB-841-14-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/12/2022	7/16/2022
PB-841-14	PB-841-14-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00058	7/12/2022	7/16/2022
PB-841-14	PB-841-14-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0023	7/12/2022	7/16/2022
PB-841-14	PB-841-14-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0023	7/12/2022	7/16/2022
PB-841-14	PB-841-14-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/12/2022	7/19/2022

Notes:
SS -- Soil Sample.
DUP-42 is a field duplicate associated with sample PB-841-09-SS01.



PB 840

PB 841

PB-841-01
PB-841-02
PB-841-03
PB-841-04
PB-841-05
PB-841-06
PB-841-07
PB-841-08
PB-841-09
PB-841-10
PB-841-11
PB-841-12
PB-841-13
PB-841-14

PB 185

PB 843

0 50 100 Feet

1 inch = 50 feet

N

Legend

Tank Group

- 04
- Previously Closed
- Associated Piping
- PESRM Soil Sample Location

SAFETY FIRST

terraphase engineering

CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

Site Location and Sampling Map 054A (PB 841)

Figure 6

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For AST Closure Report\Figure 6 - 054A (PB 841).mxd 12/30/2022 Created by: JD Checked by: Initial Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

Photograph 1:

View of Tank 054A (PB 841) prior to demolition.

Photograph 2:

View of Tank 054A (PB 841) prior to demolition.

Photograph 3:

View of piping for Tank 054A (PB 841) prior to demolition.

Photograph 4:

View of soil following demolition.

Product Movement and Waste Disposal Documentation (Tank 054A)

NorthStar Contracting Group, Inc.

PES Project Load Ticket

S120103

Load Ticket: 18864

Date: 03-10-22

Scrap

Sold to: Allegheny

Location: TANK 841

Carrier: Allegheny

Steel / Ferrous

- ☐ No. 1 P+S
- ☐ No. 2 Heavy Melt
- ☐ Cast Iron
- ☐ Mixed
- ☐ Pipe
- ☐ Light Iron
- ☐ Re-Bar
- ☐ Other Tank Plate.

Non-Ferrous

- ☐ Insulated Copper Wire
- ☐ No. 1 Copper Wire
- ☐ Brass
- ☐ Aluminum
- ☐ Stainless, Grade_____
- ☐ Other Alloy, Grade_____
- ☐ Mixed
- ☐ Other: _____

Condition

- ☐ Prepared
- ☐ Unprepared
- ☐ Green Waste
- ☐ Concrete
- ☐ Masonry
- ☐ Mixed Masonry
- ☐ Wood Only
- ☐ Demo Debris (C&D)
- ☐ Dirt / Fill
- ☐ Sand Fill
- ☐ Crushed Stone
- ☐ Other:_____

Scale Ticket #:_____

Gross Weight: 87020 lbs

Tare Weight: 38760 lbs

Net Weight: 48260 lbs

NorthStar Rep. Signature: _____

Received By: _____

Non-Haz / ACM / Special Waste

Activity Location:_____

Waste Stream

- ☐ C&D Demolition Debris
- ☐ Non-Friable ACM
- ☐ Friable ACM
- ☐ PB WWTP Sludge
- ☐ GP WWTP Sludge
- ☐ Characteristic Haz Waste (flammable D001, corrosive D002, reactive D003, toxicity D004 –D043)
- ☐ Process Haz Waste
- ☐ Demo Debris (C&D)
- ☐ Non-Haz Waste (Solid)
- ☐ Non-Haz Waste (Liquid)
- ☐ PCB (Non-TSCA)
- ☐ PCB (TSCA)

Disposal Facility:_____

Carrier:_____

Truck #:_____

Container #:_____

Manifest #:_____

Profile / Approval #:_____

Scale Info

Scale Ticket #:_____

Gross Weight:_____

Tare weight:_____

Net weight:_____

Net Kilogram Conversion (PCB Only):_____

NorthStar Rep. Signature:_____

HILCO REDEVELOPEMENT PARTNERS
3144 W. PASSYUNK AVE

PHILADELPHIA PA, 19145

Ticket #: 20034853
Date: 03/10/2022 7:47 AM
Phone: ( ) -
Fax: ( ) -

Customer: HILCO
HILCO

,

Order Number: 001
SCRAP REMOVAL
Tons: 132478.581
Loads: 8627

DT261-2 - ALLEGHENY TRUCK 261 W/TRAILER 2
CARLAD - CARLA DAVILA

Remarks: SCRAP REMOVAL

Signature: _____

Material	Quantity	Price	Material $	Delivery $	Misc $	Tax $	Line Total $
SCRAP	24.13 tn						

Weight Information

Material	Gross	Tare	Net
SCRAP	87020.00	38760.00	48260.00

03-10-2022 07:48:29
18864
THE MONSTER
3

ABOVEGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

SECTION III. Site Assessment Information

Tank Registration # 086A (complete one sheet for EACH tank system and attach ALL laboratory sheets pertaining to that system)

Facility ID Number 51 - 33620

A. Provide depth of *BEDROCK* and *WATER* IF encountered during excavation or soil boring (write "N/A": if NOT encountered).

Bedrock N/A feet below land surface Water 15 feet below land surface

B. Provide Length of *PIPING* IF piping was closed-in-place (write "N/A" if NOT closed-in-place).

Length of piping N/A feet

C. TANK SYSTEM REMOVED FROM THE GROUND/SITE

1). Was obvious contamination observed while excavating, sampling or removing the tank system?

☒ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records ----→ Do not complete item C.2. below.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

---→ Complete item C.2. below.

2). Was contamination localized (within three feet of the tank system in every direction with no obvious water contamination)?

☐ YES ----→ Remove or remediate contaminated soil ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ NO ----→ Continue Interim Remedial Actions ----→ See end of this section for options on submission and maintenance of closure records.

D. TANK SYSTEM CLOSED-IN-PLACE OR CHANGED-IN-SERVICE

Was obvious contamination observed during sampling, boring or assessing water depths?

☐ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

Continue with corrective action ----→ See end of this section for options on submission and maintenance of closure records.

E. If the answer to C.1. is "no", the answer to C.2. is "yes" or the answer to D. is "no", confirmatory samples are required. Use the sample/analysis information sheet on page 10 of 11 to provide the information on confirmatory sampling and complete the diagram on Page 11 of 11.

Options for Submission and Maintenance of Closure Site Assessment Records

Records of the site assessment must be maintained for at least three years after completion of permanent closure or change-in-service in one of the following ways:

(a) By the owners and operators who took the tank system out of service;
(b) By the current owners and operators of the tank system site; or
(c) By mailing these records to the DEP regional office responsible for the county in which the tank is located if they cannot be maintained at the closed facility.

Where the results of the site assessment indicate that obvious, localized soil contamination was encountered and the analytical results of the confirmatory sampling show levels below the statewide standard/action levels, this closure report form (Sections I, II, and III) or some other acceptable site characterization report must be received by the Department within 180 days of verbally reporting the release.

Where the results of the site assessment indicate that no obvious contamination or obvious, localized contamination was encountered, but the analytical results of the confirmatory sampling show levels above the statewide standard/action levels, or where there is obvious, extensive contamination, Section 245.310(a)(8) of the Corrective Action Process (CAP) regulations requires that details of removal from service be included in the site characterization report. A copy of the completed closure report form should be submitted as part of the site characterization report to satisfy the requirements of Section 245.310(a)(8) of the CAP regulations.

I, Kevin Long , hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating to unsworn
(Print Name)
falsification to authorities) that I am the person who performed the site assessment activities associated with the closure of the above referenced storage tank system(s) and that the information provided by me in this closure report (Section III) is true, accurate and complete to the best of my knowledge and belief.

Kevin L. Long

Signature of Person Performing Site Assessment

2 / 1 / 2023
Date

Principal Consultant
Title of Person Performing Site Assessment

Terraphase Engineering, Inc.
Name of Company Performing Site Assessment

609-236-8171 x93
Telephone Number of Person Performing Site Assessment

ABOVEGROUND STORAGE TANK SYSTEM
CLOSURE REPORT FORM

Sample/Analysis Information
(Attachment for Section III.)

Facility ID Number 51 - 33620

Sample I.D. (See diagram)	Parameter	Analytical Method[1]		Media	Result (units)	Detection Limit (units)	Date Sample Taken	Date Sample Analyzed
See attached summary table							/ /	/ /
							/ /	/ /
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[1] Where EPA Method 5035 is used, indicate sample collection option in the right-hand box of this column using the following codes:

P - Samples placed in a soil sample vial with a preservative present.
E - Samples collected and stored in a soil collection device which is airtight and affords little to no headspace.

N - Samples placed in soil sample vial without a preservative present.

Site Location and Sampling Map - Use this page or suitable facsimile to provide a large-scale map of the site where storage tank systems were closed. Scales between 1" = 10 and 1" = 100 feet frequently work well. Include the following information as each applies to the site: facility name and I.D., county, township or borough, property boundaries or area of interest, buildings, roads and streets with names or route numbers, utilities, location and ID number of storage tank systems removed including piping and dispensers, soil stockpile locations, excavations or other locations of product recovery, north arrow, approximate map scale and legend. Also, show depth and location of samples with sample ID numbers cross-referenced to the same ID numbers shown on Page 10 of 11.

Facility Name and ID: -

County:

Township/Borough: See attached Figure

Table 12 - 086A (PB 843)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-843-01	PB-843-01-SS01	4	4.5	Pyrene	SW8270D	Soil	ND	0.11	7/11/2022	7/14/2022
PB-843-01	PB-843-01-SS01	4	4.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/11/2022	7/14/2022
PB-843-01	PB-843-01-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/11/2022	7/15/2022
PB-843-01	PB-843-01-SS01	4	4.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/11/2022	7/14/2022
PB-843-01	PB-843-01-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/11/2022	7/14/2022
PB-843-01	PB-843-01-SS01	4	4.5	Chrysene	SW8270D	Soil	ND	0.11	7/11/2022	7/14/2022
PB-843-01	PB-843-01-SS01	4	4.5	Fluorene	SW8270D	Soil	ND	0.18	7/11/2022	7/14/2022
PB-843-01	PB-843-01-SS01	4	4.5	Naphthalene	SW8270D	Soil	ND	0.18	7/11/2022	7/14/2022
PB-843-01	PB-843-01-SS01	4	4.5	Anthracene	SW8270D	Soil	ND	0.11	7/11/2022	7/14/2022
PB-843-01	PB-843-01-SS01	4	4.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/11/2022	7/14/2022
PB-843-01	PB-843-01-SS01	4	4.5	Lead	SW6010D	Soil	3.02	2.08	7/11/2022	7/15/2022
PB-843-01	PB-843-01-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.001	7/11/2022	7/15/2022
PB-843-01	PB-843-01-SS01	4	4.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/11/2022	7/14/2022
PB-843-01	PB-843-01-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/11/2022	7/15/2022
PB-843-01	PB-843-01-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0005	7/11/2022	7/15/2022
PB-843-01	PB-843-01-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/11/2022	7/15/2022
PB-843-01	PB-843-01-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/11/2022	7/15/2022
PB-843-01	PB-843-01-SS01	4	4.5	Benzene	SW8260C	Soil	ND	0.0005	7/11/2022	7/15/2022
PB-843-01	PB-843-01-SS01	4	4.5	Cumene	SW8260C	Soil	ND	0.001	7/11/2022	7/15/2022
PB-843-01	PB-843-01-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/11/2022	7/15/2022
PB-843-01	PB-843-01-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/11/2022	7/15/2022
PB-843-02	PB-843-02-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00091	7/11/2022	7/15/2022
PB-843-02	PB-843-02-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-02	PB-843-02-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-843-02	PB-843-02-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-843-02	PB-843-02-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-02	PB-843-02-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-843-02	PB-843-02-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-02	PB-843-02-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-843-02	PB-843-02-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-02	PB-843-02-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-02	PB-843-02-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/11/2022	7/15/2022
PB-843-02	PB-843-02-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-02	PB-843-02-SS01	3	3.5	Lead	SW6010D	Soil	3.41	2.18	7/11/2022	7/15/2022
PB-843-02	PB-843-02-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/11/2022	7/15/2022
PB-843-02	PB-843-02-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00046	7/11/2022	7/15/2022
PB-843-02	PB-843-02-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00091	7/11/2022	7/15/2022
PB-843-02	PB-843-02-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/11/2022	7/15/2022
PB-843-02	PB-843-02-SS01	3	3.5	Benzene	SW8260C	Soil	0.00085	0.00046	7/11/2022	7/15/2022
PB-843-02	PB-843-02-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00091	7/11/2022	7/15/2022
PB-843-02	PB-843-02-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00091	7/11/2022	7/15/2022
PB-843-02	PB-843-02-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/11/2022	7/15/2022
PB-843-03	PB-843-03-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0013	7/11/2022	7/14/2022
PB-843-03	PB-843-03-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/11/2022	7/13/2022
PB-843-03	PB-843-03-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/11/2022	7/13/2022
PB-843-03	PB-843-03-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/11/2022	7/13/2022
PB-843-03	PB-843-03-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/11/2022	7/13/2022
PB-843-03	PB-843-03-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/11/2022	7/13/2022
PB-843-03	PB-843-03-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/11/2022	7/13/2022
PB-843-03	PB-843-03-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/11/2022	7/13/2022
PB-843-03	PB-843-03-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/11/2022	7/13/2022
PB-843-03	PB-843-03-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/11/2022	7/13/2022
PB-843-03	PB-843-03-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0027	7/11/2022	7/14/2022
PB-843-03	PB-843-03-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/11/2022	7/13/2022
PB-843-03	PB-843-03-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0027	7/11/2022	7/14/2022
PB-843-03	PB-843-03-SS01	3	3.5	Lead	SW6010D	Soil	3.06	2.08	7/11/2022	7/15/2022
PB-843-03	PB-843-03-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00067	7/11/2022	7/14/2022
PB-843-03	PB-843-03-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0013	7/11/2022	7/14/2022
PB-843-03	PB-843-03-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0027	7/11/2022	7/14/2022
PB-843-03	PB-843-03-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00067	7/11/2022	7/14/2022
PB-843-03	PB-843-03-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0013	7/11/2022	7/14/2022
PB-843-03	PB-843-03-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0013	7/11/2022	7/14/2022
PB-843-03	PB-843-03-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0027	7/11/2022	7/14/2022
PB-843-04	PB-843-04-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	7/11/2022	7/14/2022
PB-843-04	PB-843-04-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-843-04	PB-843-04-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-843-04	PB-843-04-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-04	PB-843-04-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-843-04	PB-843-04-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-04	PB-843-04-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-843-04	PB-843-04-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-04	PB-843-04-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-04	PB-843-04-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-04	PB-843-04-SS01	3	3.5	Lead	SW6010D	Soil	5.63	2.26	7/11/2022	7/15/2022
PB-843-04	PB-843-04-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0024	7/11/2022	7/14/2022
PB-843-04	PB-843-04-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/11/2022	7/14/2022
PB-843-04	PB-843-04-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	7/11/2022	7/14/2022
PB-843-04	PB-843-04-SS01	3	3.5	Benzene	SW8260C	Soil	0.00078	0.00061	7/11/2022	7/14/2022
PB-843-04	PB-843-04-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/11/2022	7/14/2022
PB-843-04	PB-843-04-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/11/2022	7/14/2022
PB-843-04	PB-843-04-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00061	7/11/2022	7/14/2022
PB-843-04	PB-843-04-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/11/2022	7/14/2022
PB-843-04	PB-843-04-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0024	7/11/2022	7/14/2022
PB-843-04	PB-843-04-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-05	PB-843-05-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-05	PB-843-05-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-05	PB-843-05-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-843-05	PB-843-05-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-05	PB-843-05-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-843-05	PB-843-05-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-05	PB-843-05-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-843-05	PB-843-05-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-843-05	PB-843-05-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	7/11/2022	7/14/2022
PB-843-05	PB-843-05-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-05	PB-843-05-SS01	3	3.5	Lead	SW6010D	Soil	6.17	4.48	7/11/2022	7/16/2022
PB-843-05	PB-843-05-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/11/2022	7/14/2022
PB-843-05	PB-843-05-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-05	PB-843-05-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/11/2022	7/14/2022
PB-843-05	PB-843-05-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00054	7/11/2022	7/14/2022
PB-843-05	PB-843-05-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/11/2022	7/14/2022
PB-843-05	PB-843-05-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/11/2022	7/14/2022
PB-843-05	PB-843-05-SS01	3	3.5	Benzene	SW8260C	Soil	0.0067	0.00054	7/11/2022	7/14/2022
PB-843-05	PB-843-05-SS01	3	3.5	Cumene	SW8260C	Soil	0.00012	0.0011	7/11/2022	7/14/2022
PB-843-05	PB-843-05-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/11/2022	7/14/2022
PB-843-05	PB-843-05-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	7/11/2022	7/14/2022
PB-843-06	PB-843-06-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.0012	7/11/2022	7/15/2022

Table 12 - 086A (PB 843)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-843-06	PB-843-06-SS01	4	4.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-06	PB-843-06-SS01	4	4.5	Naphthalene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-843-06	PB-843-06-SS01	4	4.5	Fluorene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-843-06	PB-843-06-SS01	4	4.5	Chrysene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-06	PB-843-06-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-843-06	PB-843-06-SS01	4	4.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-06	PB-843-06-SS01	4	4.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-843-06	PB-843-06-SS01	4	4.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-06	PB-843-06-SS01	4	4.5	Pyrene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-06	PB-843-06-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/11/2022	7/15/2022
PB-843-06	PB-843-06-SS01	4	4.5	Anthracene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-06	PB-843-06-SS01	4	4.5	Lead	SW6010D	Soil	6.13	2.22	7/11/2022	7/15/2022
PB-843-06	PB-843-06-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	ND	0.0024	7/11/2022	7/15/2022
PB-843-06	PB-843-06-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00061	7/11/2022	7/15/2022
PB-843-06	PB-843-06-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/11/2022	7/15/2022
PB-843-06	PB-843-06-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/11/2022	7/15/2022
PB-843-06	PB-843-06-SS01	4	4.5	Benzene	SW8260C	Soil	0.0057	0.00061	7/11/2022	7/15/2022
PB-843-06	PB-843-06-SS01	4	4.5	Cumene	SW8260C	Soil	0.00071	0.0012	7/11/2022	7/15/2022
PB-843-06	PB-843-06-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/11/2022	7/15/2022
PB-843-06	PB-843-06-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	0.00037	0.0024	7/11/2022	7/15/2022
PB-843-07	PB-843-07-SS01	2	2.5	Xylenes (total)	SW8260C	Soil	0.0049	0.0019	7/11/2022	7/15/2022
PB-843-07	PB-843-07-SS01	2	2.5	Naphthalene	SW8270D	Soil	0.038	0.19	7/11/2022	7/13/2022
PB-843-07	PB-843-07-SS01	2	2.5	Fluorene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-843-07	PB-843-07-SS01	2	2.5	Chrysene	SW8270D	Soil	0.1	0.11	7/11/2022	7/13/2022
PB-843-07	PB-843-07-SS01	2	2.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-843-07	PB-843-07-SS01	2	2.5	Benzo(b)fluoranthene	SW8270D	Soil	0.033	0.11	7/11/2022	7/13/2022
PB-843-07	PB-843-07-SS01	2	2.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-843-07	PB-843-07-SS01	2	2.5	Pyrene	SW8270D	Soil	0.14	0.11	7/11/2022	7/13/2022
PB-843-07	PB-843-07-SS01	2	2.5	Anthracene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-07	PB-843-07-SS01	2	2.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-07	PB-843-07-SS01	2	2.5	Lead	SW6010D	Soil	14.2	2.21	7/11/2022	7/15/2022
PB-843-07	PB-843-07-SS01	2	2.5	Methyl tert-butyl ether	SW8260C	Soil	0.00047	0.0019	7/11/2022	7/15/2022
PB-843-07	PB-843-07-SS01	2	2.5	Ethyl Benzene	SW8260C	Soil	0.00071	0.00096	7/11/2022	7/15/2022
PB-843-07	PB-843-07-SS01	2	2.5	Cumene	SW8260C	Soil	0.00016	0.00096	7/11/2022	7/15/2022
PB-843-07	PB-843-07-SS01	2	2.5	Benzene	SW8260C	Soil	0.00032	0.00048	7/11/2022	7/15/2022
PB-843-07	PB-843-07-SS01	2	2.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.0011	0.0019	7/11/2022	7/15/2022
PB-843-07	PB-843-07-SS01	2	2.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00096	7/11/2022	7/15/2022
PB-843-07	PB-843-07-SS01	2	2.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00048	7/11/2022	7/15/2022
PB-843-07	PB-843-07-SS01	2	2.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.0018	0.0019	7/11/2022	7/15/2022
PB-843-07	PB-843-07-SS01	2	2.5	Benzo(a)anthracene	SW8270D	Soil	0.037	0.11	7/11/2022	7/13/2022
PB-843-07	PB-843-07-SS01	2	2.5	Toluene	SW8260C	Soil	0.002	0.00096	7/11/2022	7/15/2022
PB-843-08	PB-843-08-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-08	PB-843-08-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/11/2022	7/13/2022
PB-843-08	PB-843-08-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-08	PB-843-08-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/11/2022	7/13/2022
PB-843-08	PB-843-08-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-08	PB-843-08-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/11/2022	7/13/2022
PB-843-08	PB-843-08-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/11/2022	7/13/2022
PB-843-08	PB-843-08-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-08	PB-843-08-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	7/11/2022	7/15/2022
PB-843-08	PB-843-08-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-08	PB-843-08-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00055	7/11/2022	7/15/2022
PB-843-08	PB-843-08-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-08	PB-843-08-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/11/2022	7/15/2022
PB-843-08	PB-843-08-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/11/2022	7/15/2022
PB-843-08	PB-843-08-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/11/2022	7/15/2022
PB-843-08	PB-843-08-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/11/2022	7/15/2022
PB-843-08	PB-843-08-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00055	7/11/2022	7/15/2022
PB-843-08	PB-843-08-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	7/11/2022	7/15/2022
PB-843-08	PB-843-08-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/11/2022	7/15/2022
PB-843-08	PB-843-08-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	7/11/2022	7/15/2022
PB-843-08	PB-843-08-SS01	3	3.5	Lead	SW6010D	Soil	3.99	2.03	7/11/2022	7/15/2022
PB-843-09	PB-843-09-SS01	4	4.5	Lead	SW6010D	Soil	18.3	2.32	7/11/2022	7/16/2022
PB-843-09	PB-843-09-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/11/2022	7/15/2022
PB-843-09	PB-843-09-SS01	4	4.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-09	PB-843-09-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	ND	0.0025	7/11/2022	7/15/2022
PB-843-09	PB-843-09-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.0012	7/11/2022	7/15/2022
PB-843-09	PB-843-09-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0025	7/11/2022	7/15/2022
PB-843-09	PB-843-09-SS01	4	4.5	Cumene	SW8260C	Soil	ND	0.0012	7/11/2022	7/15/2022
PB-843-09	PB-843-09-SS01	4	4.5	Benzene	SW8260C	Soil	0.0018	0.00063	7/11/2022	7/15/2022
PB-843-09	PB-843-09-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0025	7/11/2022	7/15/2022
PB-843-09	PB-843-09-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/11/2022	7/15/2022
PB-843-09	PB-843-09-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0025	7/11/2022	7/15/2022
PB-843-09	PB-843-09-SS01	4	4.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-843-09	PB-843-09-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00063	7/11/2022	7/15/2022
PB-843-09	PB-843-09-SS01	4	4.5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-09	PB-843-09-SS01	4	4.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-09	PB-843-09-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-843-09	PB-843-09-SS01	4	4.5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-09	PB-843-09-SS01	4	4.5	Fluorene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-843-09	PB-843-09-SS01	4	4.5	Naphthalene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-843-09	PB-843-09-SS01	4	4.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-09	PB-843-09-SS01	4	4.5	Pyrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-10	PB-843-10-SS01	2	2.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-10	PB-843-10-SS01	2	2.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-10	PB-843-10-SS01	2	2.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-843-10	PB-843-10-SS01	2	2.5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-10	PB-843-10-SS01	2	2.5	Fluorene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-843-10	PB-843-10-SS01	2	2.5	Naphthalene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-843-10	PB-843-10-SS01	2	2.5	Xylenes (total)	SW8260C	Soil	0.007	0.0021	7/11/2022	7/14/2022
PB-843-10	PB-843-10-SS01	2	2.5	Pyrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-10	PB-843-10-SS01	2	2.5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-10	PB-843-10-SS01	2	2.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-10	PB-843-10-SS01	2	2.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/11/2022	7/14/2022
PB-843-10	PB-843-10-SS01	2	2.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-843-10	PB-843-10-SS01	2	2.5	Lead	SW6010D	Soil	5.3	2.21	7/11/2022	7/15/2022
PB-843-10	PB-843-10-SS01	2	2.5	Toluene	SW8260C	Soil	ND	0.001	7/11/2022	7/14/2022
PB-843-10	PB-843-10-SS01	2	2.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00052	7/11/2022	7/14/2022
PB-843-10	PB-843-10-SS01	2	2.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/11/2022	7/14/2022
PB-843-10	PB-843-10-SS01	2	2.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/11/2022	7/14/2022
PB-843-10	PB-843-10-SS01	2	2.5	Benzene	SW8260C	Soil	0.082	0.00052	7/11/2022	7/14/2022
PB-843-10	PB-843-10-SS01	2	2.5	Cumene	SW8260C	Soil	0.00037	0.001	7/11/2022	7/14/2022
PB-843-10	PB-843-10-SS01	2	2.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/11/2022	7/14/2022
PB-843-10	PB-843-10-SS01	2	2.5	Methyl tert-butyl ether	SW8260C	Soil	0.0012	0.0021	7/11/2022	7/14/2022
PB-843-11	DUP-40	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-11	DUP-40	4.5	5	Lead	SW6010D	Soil	18	4.67	7/11/2022	7/17/2022

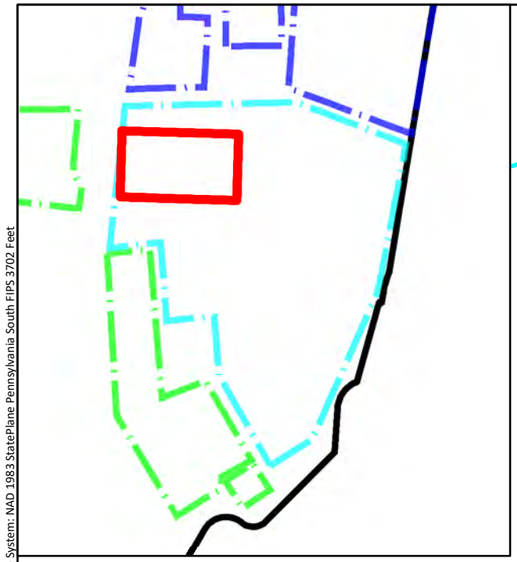
Table 12 - 086A (PB 843)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-843-11	DUP-40	4.5	5	Phenanthrene	SW8270D	Soil	0.026	0.12	7/11/2022	7/13/2022
PB-843-11	DUP-40	4.5	5	Naphthalene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-843-11	DUP-40	4.5	5	Fluorene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-843-11	DUP-40	4.5	5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-11	DUP-40	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-843-11	DUP-40	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-11	DUP-40	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-843-11	DUP-40	4.5	5	Benzo(a)anthracene	SW8270D	Soil	0.022	0.12	7/11/2022	7/13/2022
PB-843-11	DUP-40	4.5	5	Pyrene	SW8270D	Soil	0.026	0.12	7/11/2022	7/13/2022
PB-843-11	DUP-40	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0026	7/11/2022	7/15/2022
PB-843-11	DUP-40	4.5	5	Toluene	SW8260C	Soil	ND	0.0013	7/11/2022	7/15/2022
PB-843-11	DUP-40	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0026	7/11/2022	7/15/2022
PB-843-11	DUP-40	4.5	5	Ethyl Benzene	SW8260C	Soil	ND	0.0013	7/11/2022	7/15/2022
PB-843-11	DUP-40	4.5	5	Cumene	SW8260C	Soil	ND	0.0013	7/11/2022	7/15/2022
PB-843-11	DUP-40	4.5	5	Benzene	SW8260C	Soil	ND	0.00066	7/11/2022	7/15/2022
PB-843-11	DUP-40	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0026	7/11/2022	7/15/2022
PB-843-11	DUP-40	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0013	7/11/2022	7/15/2022
PB-843-11	DUP-40	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.0026	7/11/2022	7/15/2022
PB-843-11	DUP-40	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00066	7/11/2022	7/15/2022
PB-843-11	PB-843-11-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-11	PB-843-11-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-843-11	PB-843-11-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-11	PB-843-11-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-843-11	PB-843-11-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-11	PB-843-11-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-843-11	PB-843-11-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-843-11	PB-843-11-SS01	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-11	PB-843-11-SS01	4.5	5	Lead	SW6010D	Soil	5.83	2.25	7/11/2022	7/15/2022
PB-843-11	PB-843-11-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-11	PB-843-11-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-11	PB-843-11-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0025	7/11/2022	7/14/2022
PB-843-11	PB-843-11-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.0013	7/11/2022	7/14/2022
PB-843-11	PB-843-11-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	0.00045	0.0025	7/11/2022	7/14/2022
PB-843-11	PB-843-11-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	ND	0.0013	7/11/2022	7/14/2022
PB-843-11	PB-843-11-SS01	4.5	5	Cumene	SW8260C	Soil	0.00026	0.0013	7/11/2022	7/14/2022
PB-843-11	PB-843-11-SS01	4.5	5	Benzene	SW8260C	Soil	0.00024	0.00063	7/11/2022	7/14/2022
PB-843-11	PB-843-11-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0025	7/11/2022	7/14/2022
PB-843-11	PB-843-11-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0013	7/11/2022	7/14/2022
PB-843-11	PB-843-11-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00063	7/11/2022	7/14/2022
PB-843-11	PB-843-11-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.0025	7/11/2022	7/14/2022
PB-843-12	PB-843-12-SS01	4	4.5	Anthracene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-12	PB-843-12-SS01	4	4.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-843-12	PB-843-12-SS01	4	4.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-12	PB-843-12-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-843-12	PB-843-12-SS01	4	4.5	Chrysene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-12	PB-843-12-SS01	4	4.5	Fluorene	SW8270D	Soil	ND	0.18	7/11/2022	7/13/2022
PB-843-12	PB-843-12-SS01	4	4.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-12	PB-843-12-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/11/2022	7/15/2022
PB-843-12	PB-843-12-SS01	4	4.5	Pyrene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-12	PB-843-12-SS01	4	4.5	Naphthalene	SW8270D	Soil	ND	0.18	7/11/2022	7/13/2022
PB-843-12	PB-843-12-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00051	7/11/2022	7/15/2022
PB-843-12	PB-843-12-SS01	4	4.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-12	PB-843-12-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.001	7/11/2022	7/15/2022
PB-843-12	PB-843-12-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/11/2022	7/15/2022
PB-843-12	PB-843-12-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/11/2022	7/15/2022
PB-843-12	PB-843-12-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/11/2022	7/15/2022
PB-843-12	PB-843-12-SS01	4	4.5	Benzene	SW8260C	Soil	0.0017	0.00051	7/11/2022	7/15/2022
PB-843-12	PB-843-12-SS01	4	4.5	Cumene	SW8260C	Soil	0.00045	0.001	7/11/2022	7/15/2022
PB-843-12	PB-843-12-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/11/2022	7/15/2022
PB-843-12	PB-843-12-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	0.0009	0.002	7/11/2022	7/15/2022
PB-843-12	PB-843-12-SS01	4	4.5	Lead	SW6010D	Soil	8.48	2.15	7/11/2022	7/15/2022
PB-843-13	PB-843-13-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-13	PB-843-13-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/11/2022	7/13/2022
PB-843-13	PB-843-13-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-13	PB-843-13-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/11/2022	7/13/2022
PB-843-13	PB-843-13-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-13	PB-843-13-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-13	PB-843-13-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/11/2022	7/13/2022
PB-843-13	PB-843-13-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/11/2022	7/13/2022
PB-843-13	PB-843-13-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-13	PB-843-13-SS01	3	3.5	Lead	SW6010D	Soil	3.21	2.08	7/11/2022	7/15/2022
PB-843-13	PB-843-13-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-843-13	PB-843-13-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/11/2022	7/15/2022
PB-843-13	PB-843-13-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/11/2022	7/15/2022
PB-843-13	PB-843-13-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/11/2022	7/15/2022
PB-843-13	PB-843-13-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/11/2022	7/15/2022
PB-843-13	PB-843-13-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	7/11/2022	7/15/2022
PB-843-13	PB-843-13-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00051	7/11/2022	7/15/2022
PB-843-13	PB-843-13-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/11/2022	7/15/2022
PB-843-13	PB-843-13-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/11/2022	7/15/2022
PB-843-13	PB-843-13-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00051	7/11/2022	7/15/2022
PB-843-13	PB-843-13-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/11/2022	7/15/2022
PB-843-14	PB-843-14-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-14	PB-843-14-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-843-14	PB-843-14-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-14	PB-843-14-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-843-14	PB-843-14-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-14	PB-843-14-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-843-14	PB-843-14-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-843-14	PB-843-14-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-14	PB-843-14-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00099	7/11/2022	7/15/2022
PB-843-14	PB-843-14-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-14	PB-843-14-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/11/2022	7/15/2022
PB-843-14	PB-843-14-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-14	PB-843-14-SS01	3	3.5	Lead	SW6010D	Soil	11.2	2.24	7/11/2022	7/15/2022
PB-843-14	PB-843-14-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/11/2022	7/15/2022
PB-843-14	PB-843-14-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00049	7/11/2022	7/15/2022
PB-843-14	PB-843-14-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00099	7/11/2022	7/15/2022
PB-843-14	PB-843-14-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/11/2022	7/15/2022
PB-843-14	PB-843-14-SS01	3	3.5	Benzene	SW8260C	Soil	0.00035	0.00049	7/11/2022	7/15/2022
PB-843-14	PB-843-14-SS01	3	3.5	Cumene	SW8260C	Soil	0.00017	0.00099	7/11/2022	7/15/2022
PB-843-14	PB-843-14-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00099	7/11/2022	7/15/2022
PB-843-14	PB-843-14-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.0006	0.002	7/11/2022	7/15/2022
PB-843-15	PB-843-15-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	ND	0.0019	7/11/2022	7/15/2022
PB-843-15	PB-843-15-SS01	4	4.5	Naphthalene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-843-15	PB-843-15-SS01	4	4.5	Fluorene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022

Table 12 - 086A (PB 843)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-843-15	PB-843-15-SS01	4	4.5	Chrysene	SW8270D	Soil	0.24	0.12	7/11/2022	7/13/2022
PB-843-15	PB-843-15-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.12	0.16	7/11/2022	7/13/2022
PB-843-15	PB-843-15-SS01	4	4.5	Benzo(b)fluoranthene	SW8270D	Soil	0.27	0.12	7/11/2022	7/13/2022
PB-843-15	PB-843-15-SS01	4	4.5	Benzo(a)pyrene	SW8270D	Soil	0.23	0.16	7/11/2022	7/13/2022
PB-843-15	PB-843-15-SS01	4	4.5	Pyrene	SW8270D	Soil	0.39	0.12	7/11/2022	7/13/2022
PB-843-15	PB-843-15-SS01	4	4.5	Anthracene	SW8270D	Soil	0.05	0.12	7/11/2022	7/13/2022
PB-843-15	PB-843-15-SS01	4	4.5	Phenanthrene	SW8270D	Soil	0.19	0.12	7/11/2022	7/13/2022
PB-843-15	PB-843-15-SS01	4	4.5	Lead	SW6010D	Soil	92	2.26	7/11/2022	7/16/2022
PB-843-15	PB-843-15-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0019	7/11/2022	7/15/2022
PB-843-15	PB-843-15-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	ND	0.00097	7/11/2022	7/15/2022
PB-843-15	PB-843-15-SS01	4	4.5	Cumene	SW8260C	Soil	ND	0.00097	7/11/2022	7/15/2022
PB-843-15	PB-843-15-SS01	4	4.5	Benzene	SW8260C	Soil	ND	0.00048	7/11/2022	7/15/2022
PB-843-15	PB-843-15-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/11/2022	7/15/2022
PB-843-15	PB-843-15-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00097	7/11/2022	7/15/2022
PB-843-15	PB-843-15-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00048	7/11/2022	7/15/2022
PB-843-15	PB-843-15-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/11/2022	7/15/2022
PB-843-15	PB-843-15-SS01	4	4.5	Benzo(a)anthracene	SW8270D	Soil	0.24	0.12	7/11/2022	7/13/2022
PB-843-15	PB-843-15-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.00097	7/11/2022	7/15/2022
PB-843-16	PB-843-16-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-16	PB-843-16-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-843-16	PB-843-16-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-16	PB-843-16-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-843-16	PB-843-16-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-16	PB-843-16-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-843-16	PB-843-16-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-843-16	PB-843-16-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-16	PB-843-16-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00097	7/11/2022	7/15/2022
PB-843-16	PB-843-16-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-16	PB-843-16-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00048	7/11/2022	7/15/2022
PB-843-16	PB-843-16-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-16	PB-843-16-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0019	7/11/2022	7/15/2022
PB-843-16	PB-843-16-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-16	PB-843-16-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0019	7/11/2022	7/15/2022
PB-843-16	PB-843-16-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/11/2022	7/15/2022
PB-843-16	PB-843-16-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00097	7/11/2022	7/15/2022
PB-843-16	PB-843-16-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/11/2022	7/15/2022
PB-843-16	PB-843-16-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00048	7/11/2022	7/15/2022
PB-843-16	PB-843-16-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00097	7/11/2022	7/15/2022
PB-843-16	PB-843-16-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00097	7/11/2022	7/15/2022
PB-843-16	PB-843-16-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0019	7/11/2022	7/15/2022
PB-843-16	PB-843-16-SS01	3	3.5	Lead	SW6010D	Soil	48.6	4.56	7/11/2022	7/17/2022
PB-843-17	PB-843-17-SS01	4	4.5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-17	PB-843-17-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-843-17	PB-843-17-SS01	4	4.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-17	PB-843-17-SS01	4	4.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-843-17	PB-843-17-SS01	4	4.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-17	PB-843-17-SS01	4	4.5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-17	PB-843-17-SS01	4	4.5	Fluorene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-843-17	PB-843-17-SS01	4	4.5	Naphthalene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-843-17	PB-843-17-SS01	4	4.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-17	PB-843-17-SS01	4	4.5	Lead	SW6010D	Soil	11	2.38	7/11/2022	7/15/2022
PB-843-17	PB-843-17-SS01	4	4.5	Pyrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-843-17	PB-843-17-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0023	7/11/2022	7/15/2022
PB-843-17	PB-843-17-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.0011	7/11/2022	7/15/2022
PB-843-17	PB-843-17-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	0.00055	0.0023	7/11/2022	7/15/2022
PB-843-17	PB-843-17-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/11/2022	7/15/2022
PB-843-17	PB-843-17-SS01	4	4.5	Cumene	SW8260C	Soil	ND	0.0011	7/11/2022	7/15/2022
PB-843-17	PB-843-17-SS01	4	4.5	Benzene	SW8260C	Soil	0.00024	0.00057	7/11/2022	7/15/2022
PB-843-17	PB-843-17-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0023	7/11/2022	7/15/2022
PB-843-17	PB-843-17-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/11/2022	7/15/2022
PB-843-17	PB-843-17-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00057	7/11/2022	7/15/2022
PB-843-17	PB-843-17-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	ND	0.0023	7/11/2022	7/15/2022

Notes:
SS -- Soil Sample.
DUP-40 is a field duplicate associated with sample PB-843-11-SS01.



PB 841

PB-843-03

PB-843-01

PB-843-02

PB-843-04

PB-843-07

PB-843-05

PB-843-06

PB 843

PB-843-08

PB-843-09

PB-843-10

PB-843-11

PB-843-12

PB-843-13

PB-843-17

PB-843-14

PB-843-15

PB-843-16

PB 844

PB 842

Legend

Tank Group

04

Previously Closed

Associated Piping

PESRM Soil Sample Location

0 50 100 Feet

1 inch = 50 feet

N

SAFETY FIRST

terraphase engineering

CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

Site Location and Sampling Map 086A (PB 843)

Figure 12

File: N:\GIS\Pr\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For AST Closure Report\Figure 12 - 086A (PB 843).mxd 12/30/2022 Created by: JD Checked by: Initial Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

Photograph 1:

View of Tank 086A (PB 843) during demolition.

Photograph 2:

View of Tank 086A (PB 843) during demolition.

Photograph 3:

View of soil following demolition.

Product Movement and Waste Disposal Documentation (Tank 086A)

NorthStar Contracting Group, Inc.

PES Project Load Ticket

S120103.

Load Ticket: 18964

Date: 03 / 11 / 22.

Scrap

Sold to: Allghany

Location: Tank 213

Carrier: Allegheny

Steel / Ferrous

- ☐ No. 1 P+S
- ☐ No. 2 Heavy Melt
- ☐ Cast Iron
- ☐ Mixed
- ☐ Pipe
- ☐ Light Iron
- ☐ Re-Bar
- ☐ Other Tank Plate.

Non-Ferrous

- ☐ Insulated Copper Wire
- ☐ No. 1 Copper Wire
- ☐ Brass
- ☐ Aluminum
- ☐ Stainless, Grade_____
- ☐ Other Alloy, Grade_____
- ☐ Mixed
- ☐ Other: _____

Condition

- ☐ Prepared
- ☐ Unprepared
- ☐ Green Waste
- ☐ Concrete
- ☐ Masonry
- ☐ Mixed Masonry
- ☐ Wood Only
- ☐ Demo Debris (C&D)
- ☐ Dirt / Fill
- ☐ Sand Fill
- ☐ Crushed Stone
- ☐ Other:_____

Scale Ticket #:_____

Gross Weight: 76180 lbs

Tare Weight: 47000 lbs

Net Weight: 29180 lbs

NorthStar Rep. Signature: _____

Received By: _____

Non-Haz / ACM / Special Waste

Activity Location:_____

Waste Stream

- ☐ C&D Demolition Debris
- ☐ Non-Friable ACM
- ☐ Friable ACM
- ☐ PB WWTP Sludge
- ☐ GP WWTP Sludge
- ☐ Characteristic Haz Waste (flammable D001, corrosive D002, reactive D003, toxicity D004 –D043)
- ☐ Process Haz Waste
- ☐ Demo Debris (C&D)
- ☐ Non-Haz Waste (Solid)
- ☐ Non-Haz Waste (Liquid)
- ☐ PCB (Non-TSCA)
- ☐ PCB (TSCA)

Disposal Facility:_____

Carrier:_____

Truck #:_____

Container #:_____

Manifest #:_____

Profile / Approval #:_____

Scale Info

Scale Ticket #:_____

Gross Weight:_____

Tare weight:_____

Net weight:_____

Net Kilogram Conversion (PCB Only):_____

NorthStar Rep. Signature:_____

HILCO REDEVELOPEMENT PARTNERS
3144 W. PASSYUNK AVE

PHILADELPHIA PA, 19145

Ticket #: 20034947
Date: 03/14/2022 8:29 AM
Phone: ( ) -
Fax: ( ) -

Customer: HILCO
HILCO

Order Number: 001
SCRAP REMOVAL
Tons: 133987.016
Loads: 8721

DT06-103 - ALLEGHENY TRUCK 06 W/TRAILER 103
CARLAD - CARLA DAVILA

Remarks: SCRAP REMOVAL

Signature: _____

Material	Quantity	Price	Material $	Delivery $	Misc $	Tax $	Line Total $
SCRAP	17.09 tn						

Weight Information

Material	Gross	Tare	Net
SCRAP	76180.00	42000.00	34180.00

03-14-2022 08:31:39
18964

ABOVEGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

SECTION III. Site Assessment Information

Tank Registration # 055A (complete one sheet for EACH tank system and attach ALL laboratory sheets pertaining to that system)

Facility ID Number 51 - 33620

A. Provide depth of *BEDROCK* and *WATER* IF encountered during excavation or soil boring (write "N/A": if NOT encountered).

Bedrock N/A feet below land surface Water 15 feet below land surface

B. Provide Length of *PIPING* IF piping was closed-in-place (write "N/A" if NOT closed-in-place).

Length of piping N/A feet

C. TANK SYSTEM REMOVED FROM THE GROUND/SITE

1). Was obvious contamination observed while excavating, sampling or removing the tank system?

☒ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records ----→ Do not complete item C.2. below.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

---→ Complete item C.2. below.

2). Was contamination localized (within three feet of the tank system in every direction with no obvious water contamination)?

☐ YES ----→ Remove or remediate contaminated soil ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ NO ----→ Continue Interim Remedial Actions ----→ See end of this section for options on submission and maintenance of closure records.

D. TANK SYSTEM CLOSED-IN-PLACE OR CHANGED-IN-SERVICE

Was obvious contamination observed during sampling, boring or assessing water depths?

☐ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

Continue with corrective action ----→ See end of this section for options on submission and maintenance of closure records.

E. If the answer to C.1. is "no", the answer to C.2. is "yes" or the answer to D. is "no", confirmatory samples are required. Use the sample/analysis information sheet on page 10 of 11 to provide the information on confirmatory sampling and complete the diagram on Page 11 of 11.

Options for Submission and Maintenance of Closure Site Assessment Records

Records of the site assessment must be maintained for at least three years after completion of permanent closure or change-in-service in one of the following ways:

(a) By the owners and operators who took the tank system out of service;
(b) By the current owners and operators of the tank system site; or
(c) By mailing these records to the DEP regional office responsible for the county in which the tank is located if they cannot be maintained at the closed facility.

Where the results of the site assessment indicate that obvious, localized soil contamination was encountered and the analytical results of the confirmatory sampling show levels below the statewide standard/action levels, this closure report form (Sections I, II, and III) or some other acceptable site characterization report must be received by the Department within 180 days of verbally reporting the release.

Where the results of the site assessment indicate that no obvious contamination or obvious, localized contamination was encountered, but the analytical results of the confirmatory sampling show levels above the statewide standard/action levels, or where there is obvious, extensive contamination, Section 245.310(a)(8) of the Corrective Action Process (CAP) regulations requires that details of removal from service be included in the site characterization report. A copy of the completed closure report form should be submitted as part of the site characterization report to satisfy the requirements of Section 245.310(a)(8) of the CAP regulations.

I, Kevin Long , hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating to unsworn
(Print Name)
falsification to authorities) that I am the person who performed the site assessment activities associated with the closure of the above referenced storage tank system(s) and that the information provided by me in this closure report (Section III) is true, accurate and complete to the best of my knowledge and belief.

Kevin L. Long

Signature of Person Performing Site Assessment

2 / 1 / 2023
Date

Principal Consultant
Title of Person Performing Site Assessment

Terraphase Engineering, Inc.
Name of Company Performing Site Assessment

609-236-8171 x93
Telephone Number of Person Performing Site Assessment

ABOVEGROUND STORAGE TANK SYSTEM
CLOSURE REPORT FORM

Sample/Analysis Information
(Attachment for Section III.)

Facility ID Number 51 - 33620

Sample I.D. (See diagram)	Parameter	Analytical Method[1]		Media	Result (units)	Detection Limit (units)	Date Sample Taken	Date Sample Analyzed
See attached summary table							/ /	/ /
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[1] Where EPA Method 5035 is used, indicate sample collection option in the right-hand box of this column using the following codes:

P - Samples placed in a soil sample vial with a preservative present.
E - Samples collected and stored in a soil collection device which is airtight and affords little to no headspace.

N - Samples placed in soil sample vial without a preservative present.

Site Location and Sampling Map - Use this page or suitable facsimile to provide a large-scale map of the site where storage tank systems were closed. Scales between 1" = 10 and 1" = 100 feet frequently work well. Include the following information as each applies to the site: facility name and I.D., county, township or borough, property boundaries or area of interest, buildings, roads and streets with names or route numbers, utilities, location and ID number of storage tank systems removed including piping and dispensers, soil stockpile locations, excavations or other locations of product recovery, north arrow, approximate map scale and legend. Also, show depth and location of samples with sample ID numbers cross-referenced to the same ID numbers shown on Page 10 of 11.

Facility Name and ID: -

County:

Township/Borough: See attached Figure

Table 7 - 055A (PB 847)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-847-01	PB-847-01-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-01	PB-847-01-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-01	PB-847-01-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-01	PB-847-01-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-01	PB-847-01-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-01	PB-847-01-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/8/2022	7/11/2022
PB-847-01	PB-847-01-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	7/8/2022	7/11/2022
PB-847-01	PB-847-01-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-01	PB-847-01-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00085	7/8/2022	7/13/2022
PB-847-01	PB-847-01-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-01	PB-847-01-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/8/2022	7/13/2022
PB-847-01	PB-847-01-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-01	PB-847-01-SS01	3	3.5	Lead	SW6010D	Soil	6.08	2.37	7/8/2022	7/15/2022
PB-847-01	PB-847-01-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0017	7/8/2022	7/13/2022
PB-847-01	PB-847-01-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00043	7/8/2022	7/13/2022
PB-847-01	PB-847-01-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00085	7/8/2022	7/13/2022
PB-847-01	PB-847-01-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/8/2022	7/13/2022
PB-847-01	PB-847-01-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00043	7/8/2022	7/13/2022
PB-847-01	PB-847-01-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00085	7/8/2022	7/13/2022
PB-847-01	PB-847-01-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00085	7/8/2022	7/13/2022
PB-847-01	PB-847-01-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0017	7/8/2022	7/13/2022
PB-847-02	DUP-37	3	3.5	Toluene	SW8260C	Soil	ND	0.00089	7/8/2022	7/13/2022
PB-847-02	DUP-37	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-02	DUP-37	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	7/8/2022	7/11/2022
PB-847-02	DUP-37	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/8/2022	7/11/2022
PB-847-02	DUP-37	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-02	DUP-37	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-02	DUP-37	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-02	DUP-37	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-02	DUP-37	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-02	DUP-37	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-02	DUP-37	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-02	DUP-37	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-02	DUP-37	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-02	DUP-37	3	3.5	Lead	SW6010D	Soil	4.52	2.34	7/8/2022	7/15/2022
PB-847-02	DUP-37	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00044	7/8/2022	7/13/2022
PB-847-02	DUP-37	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00089	7/8/2022	7/13/2022
PB-847-02	DUP-37	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-02	DUP-37	3	3.5	Benzene	SW8260C	Soil	ND	0.00044	7/8/2022	7/13/2022
PB-847-02	DUP-37	3	3.5	Cumene	SW8260C	Soil	ND	0.00089	7/8/2022	7/13/2022
PB-847-02	DUP-37	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00089	7/8/2022	7/13/2022
PB-847-02	DUP-37	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-02	PB-847-02-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00093	7/8/2022	7/13/2022
PB-847-02	PB-847-02-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	7/8/2022	7/11/2022
PB-847-02	PB-847-02-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/8/2022	7/11/2022
PB-847-02	PB-847-02-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-02	PB-847-02-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-02	PB-847-02-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-02	PB-847-02-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-02	PB-847-02-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-02	PB-847-02-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-02	PB-847-02-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-02	PB-847-02-SS01	3	3.5	Lead	SW6010D	Soil	4.67	2.42	7/8/2022	7/15/2022
PB-847-02	PB-847-02-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-02	PB-847-02-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00093	7/8/2022	7/13/2022
PB-847-02	PB-847-02-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00093	7/8/2022	7/13/2022
PB-847-02	PB-847-02-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00046	7/8/2022	7/13/2022
PB-847-02	PB-847-02-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-02	PB-847-02-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00093	7/8/2022	7/13/2022
PB-847-02	PB-847-02-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00046	7/8/2022	7/13/2022
PB-847-02	PB-847-02-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-02	PB-847-02-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-02	PB-847-02-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-03	PB-847-03-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/8/2022	7/11/2022
PB-847-03	PB-847-03-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/11/2022
PB-847-03	PB-847-03-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/8/2022	7/11/2022
PB-847-03	PB-847-03-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/8/2022	7/11/2022
PB-847-03	PB-847-03-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/8/2022	7/11/2022
PB-847-03	PB-847-03-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/8/2022	7/11/2022
PB-847-03	PB-847-03-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/8/2022	7/11/2022
PB-847-03	PB-847-03-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/8/2022	7/11/2022
PB-847-03	PB-847-03-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00089	7/8/2022	7/13/2022
PB-847-03	PB-847-03-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/8/2022	7/11/2022
PB-847-03	PB-847-03-SS01	3	3.5	Lead	SW6010D	Soil	4.07	2.17	7/8/2022	7/15/2022
PB-847-03	PB-847-03-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-03	PB-847-03-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/11/2022
PB-847-03	PB-847-03-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-03	PB-847-03-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00045	7/8/2022	7/13/2022
PB-847-03	PB-847-03-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00089	7/8/2022	7/13/2022
PB-847-03	PB-847-03-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-03	PB-847-03-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00045	7/8/2022	7/13/2022
PB-847-03	PB-847-03-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00089	7/8/2022	7/13/2022
PB-847-03	PB-847-03-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00089	7/8/2022	7/13/2022
PB-847-03	PB-847-03-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-04	PB-847-04-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00088	7/8/2022	7/13/2022
PB-847-04	PB-847-04-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/8/2022	7/11/2022
PB-847-04	PB-847-04-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/8/2022	7/11/2022
PB-847-04	PB-847-04-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/8/2022	7/11/2022
PB-847-04	PB-847-04-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/8/2022	7/11/2022
PB-847-04	PB-847-04-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/8/2022	7/11/2022
PB-847-04	PB-847-04-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/8/2022	7/11/2022
PB-847-04	PB-847-04-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/8/2022	7/11/2022
PB-847-04	PB-847-04-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/11/2022
PB-847-04	PB-847-04-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/8/2022	7/11/2022
PB-847-04	PB-847-04-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-04	PB-847-04-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/11/2022
PB-847-04	PB-847-04-SS01	3	3.5	Lead	SW6010D	Soil	3.69	2.26	7/8/2022	7/15/2022
PB-847-04	PB-847-04-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-04	PB-847-04-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00044	7/8/2022	7/13/2022
PB-847-04	PB-847-04-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00088	7/8/2022	7/13/2022
PB-847-04	PB-847-04-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-04	PB-847-04-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00044	7/8/2022	7/13/2022
PB-847-04	PB-847-04-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00088	7/8/2022	7/13/2022
PB-847-04	PB-847-04-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00088	7/8/2022	7/13/2022
PB-847-04	PB-847-04-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-05	PB-847-05-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.00087	7/8/2022	7/13/2022

Table 7 - 055A (PB 847)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-847-05	PB-847-05-SS01	4	4.5	Naphthalene	SW8270D	Soil	ND	0.19	7/8/2022	7/11/2022
PB-847-05	PB-847-05-SS01	4	4.5	Fluorene	SW8270D	Soil	ND	0.19	7/8/2022	7/11/2022
PB-847-05	PB-847-05-SS01	4	4.5	Chrysene	SW8270D	Soil	ND	0.11	7/8/2022	7/11/2022
PB-847-05	PB-847-05-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/8/2022	7/11/2022
PB-847-05	PB-847-05-SS01	4	4.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/8/2022	7/11/2022
PB-847-05	PB-847-05-SS01	4	4.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/8/2022	7/11/2022
PB-847-05	PB-847-05-SS01	4	4.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/11/2022
PB-847-05	PB-847-05-SS01	4	4.5	Pyrene	SW8270D	Soil	ND	0.11	7/8/2022	7/11/2022
PB-847-05	PB-847-05-SS01	4	4.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/8/2022	7/11/2022
PB-847-05	PB-847-05-SS01	4	4.5	Lead	SW6010D	Soil	3.51	2.23	7/8/2022	7/15/2022
PB-847-05	PB-847-05-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0017	7/8/2022	7/13/2022
PB-847-05	PB-847-05-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	ND	0.00087	7/8/2022	7/13/2022
PB-847-05	PB-847-05-SS01	4	4.5	Cumene	SW8260C	Soil	ND	0.00087	7/8/2022	7/13/2022
PB-847-05	PB-847-05-SS01	4	4.5	Benzene	SW8260C	Soil	ND	0.00043	7/8/2022	7/13/2022
PB-847-05	PB-847-05-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/8/2022	7/13/2022
PB-847-05	PB-847-05-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00087	7/8/2022	7/13/2022
PB-847-05	PB-847-05-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00043	7/8/2022	7/13/2022
PB-847-05	PB-847-05-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/8/2022	7/13/2022
PB-847-05	PB-847-05-SS01	4	4.5	Anthracene	SW8270D	Soil	ND	0.11	7/8/2022	7/11/2022
PB-847-05	PB-847-05-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	ND	0.0017	7/8/2022	7/13/2022
PB-847-06	PB-847-06-SS01	3.5	4	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-06	PB-847-06-SS01	3.5	4	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-06	PB-847-06-SS01	3.5	4	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-06	PB-847-06-SS01	3.5	4	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-06	PB-847-06-SS01	3.5	4	Chrysene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-06	PB-847-06-SS01	3.5	4	Fluorene	SW8270D	Soil	ND	0.2	7/8/2022	7/11/2022
PB-847-06	PB-847-06-SS01	3.5	4	Naphthalene	SW8270D	Soil	ND	0.2	7/8/2022	7/11/2022
PB-847-06	PB-847-06-SS01	3.5	4	Pyrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-06	PB-847-06-SS01	3.5	4	Toluene	SW8260C	Soil	ND	0.00086	7/8/2022	7/13/2022
PB-847-06	PB-847-06-SS01	3.5	4	Phenanthrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-06	PB-847-06-SS01	3.5	4	Lead	SW6010D	Soil	4.69	2.31	7/8/2022	7/15/2022
PB-847-06	PB-847-06-SS01	3.5	4	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0017	7/8/2022	7/13/2022
PB-847-06	PB-847-06-SS01	3.5	4	Ethyl Benzene	SW8260C	Soil	ND	0.00086	7/8/2022	7/13/2022
PB-847-06	PB-847-06-SS01	3.5	4	Cumene	SW8260C	Soil	ND	0.00086	7/8/2022	7/13/2022
PB-847-06	PB-847-06-SS01	3.5	4	Benzene	SW8260C	Soil	ND	0.00043	7/8/2022	7/13/2022
PB-847-06	PB-847-06-SS01	3.5	4	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/8/2022	7/13/2022
PB-847-06	PB-847-06-SS01	3.5	4	1,2-Dichloroethane	SW8260C	Soil	ND	0.00086	7/8/2022	7/13/2022
PB-847-06	PB-847-06-SS01	3.5	4	1,2-Dibromoethane	SW8260C	Soil	ND	0.00043	7/8/2022	7/13/2022
PB-847-06	PB-847-06-SS01	3.5	4	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/8/2022	7/13/2022
PB-847-06	PB-847-06-SS01	3.5	4	Xylenes (total)	SW8260C	Soil	ND	0.0017	7/8/2022	7/13/2022
PB-847-06	PB-847-06-SS01	3.5	4	Anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-07	PB-847-07-SS01	4	4.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-07	PB-847-07-SS01	4	4.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-07	PB-847-07-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-07	PB-847-07-SS01	4	4.5	Chrysene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-07	PB-847-07-SS01	4	4.5	Fluorene	SW8270D	Soil	ND	0.2	7/8/2022	7/11/2022
PB-847-07	PB-847-07-SS01	4	4.5	Naphthalene	SW8270D	Soil	ND	0.2	7/8/2022	7/11/2022
PB-847-07	PB-847-07-SS01	4	4.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-07	PB-847-07-SS01	4	4.5	Pyrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-07	PB-847-07-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	ND	0.0021	7/8/2022	7/13/2022
PB-847-07	PB-847-07-SS01	4	4.5	Anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-07	PB-847-07-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00052	7/8/2022	7/13/2022
PB-847-07	PB-847-07-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/8/2022	7/13/2022
PB-847-07	PB-847-07-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/8/2022	7/13/2022
PB-847-07	PB-847-07-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/8/2022	7/13/2022
PB-847-07	PB-847-07-SS01	4	4.5	Benzene	SW8260C	Soil	0.00029	0.00052	7/8/2022	7/13/2022
PB-847-07	PB-847-07-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/8/2022	7/13/2022
PB-847-07	PB-847-07-SS01	4	4.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-07	PB-847-07-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0021	7/8/2022	7/13/2022
PB-847-07	PB-847-07-SS01	4	4.5	Lead	SW6010D	Soil	5.3	4.63	7/8/2022	7/15/2022
PB-847-07	PB-847-07-SS01	4	4.5	Cumene	SW8260C	Soil	ND	0.001	7/8/2022	7/13/2022
PB-847-07	PB-847-07-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.001	7/8/2022	7/13/2022
PB-847-08	PB-847-08-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-08	PB-847-08-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-08	PB-847-08-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-08	PB-847-08-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-08	PB-847-08-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-08	PB-847-08-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/8/2022	7/11/2022
PB-847-08	PB-847-08-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-08	PB-847-08-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-08	PB-847-08-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0009	7/8/2022	7/13/2022
PB-847-08	PB-847-08-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	7/8/2022	7/11/2022
PB-847-08	PB-847-08-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00045	7/8/2022	7/13/2022
PB-847-08	PB-847-08-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-08	PB-847-08-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-08	PB-847-08-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-08	PB-847-08-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0009	7/8/2022	7/13/2022
PB-847-08	PB-847-08-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-08	PB-847-08-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00045	7/8/2022	7/13/2022
PB-847-08	PB-847-08-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0009	7/8/2022	7/13/2022
PB-847-08	PB-847-08-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0009	7/8/2022	7/13/2022
PB-847-08	PB-847-08-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/8/2022	7/13/2022
PB-847-08	PB-847-08-SS01	3	3.5	Lead	SW6010D	Soil	4.46	2.36	7/8/2022	7/15/2022
PB-847-09	PB-847-09-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.0012	7/8/2022	7/13/2022
PB-847-09	PB-847-09-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.13	7/8/2022	7/11/2022
PB-847-09	PB-847-09-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.13	7/8/2022	7/11/2022
PB-847-09	PB-847-09-SS01	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.13	7/8/2022	7/11/2022
PB-847-09	PB-847-09-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.21	7/8/2022	7/11/2022
PB-847-09	PB-847-09-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.21	7/8/2022	7/11/2022
PB-847-09	PB-847-09-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.13	7/8/2022	7/11/2022
PB-847-09	PB-847-09-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.17	7/8/2022	7/11/2022
PB-847-09	PB-847-09-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.13	7/8/2022	7/11/2022
PB-847-09	PB-847-09-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.17	7/8/2022	7/11/2022
PB-847-09	PB-847-09-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00058	7/8/2022	7/13/2022
PB-847-09	PB-847-09-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.13	7/8/2022	7/11/2022
PB-847-09	PB-847-09-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.0023	7/8/2022	7/13/2022
PB-847-09	PB-847-09-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0023	7/8/2022	7/13/2022
PB-847-09	PB-847-09-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/8/2022	7/13/2022
PB-847-09	PB-847-09-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0023	7/8/2022	7/13/2022
PB-847-09	PB-847-09-SS01	4.5	5	Benzene	SW8260C	Soil	0.00024	0.00058	7/8/2022	7/13/2022
PB-847-09	PB-847-09-SS01	4.5	5	Cumene	SW8260C	Soil	ND	0.0012	7/8/2022	7/13/2022
PB-847-09	PB-847-09-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/8/2022	7/13/2022
PB-847-09	PB-847-09-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0023	7/8/2022	7/13/2022
PB-847-09	PB-847-09-SS01	4.5	5	Lead	SW6010D	Soil	4.13	2.5	7/8/2022	7/15/2022
PB-847-10	PB-847-10-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00098	7/8/2022	7/13/2022
PB-847-10	PB-847-10-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022

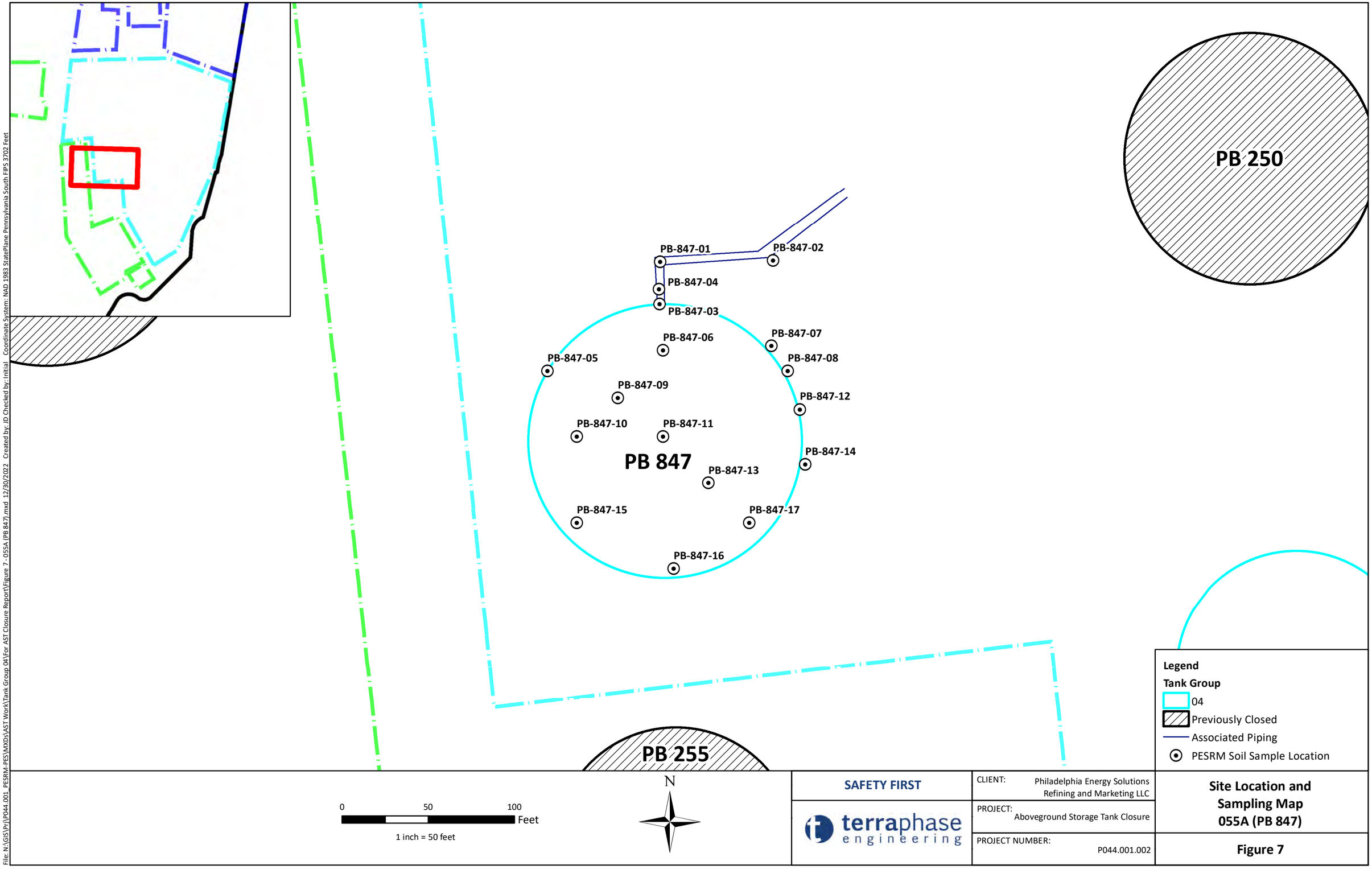
Table 7 - 055A (PB 847)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-847-10	PB-847-10-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	7/8/2022	7/11/2022
PB-847-10	PB-847-10-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/8/2022	7/11/2022
PB-847-10	PB-847-10-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-10	PB-847-10-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-10	PB-847-10-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-10	PB-847-10-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-10	PB-847-10-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-10	PB-847-10-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-10	PB-847-10-SS01	3	3.5	Lead	SW6010D	Soil	5.37	4.8	7/8/2022	7/15/2022
PB-847-10	PB-847-10-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/8/2022	7/13/2022
PB-847-10	PB-847-10-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00098	7/8/2022	7/13/2022
PB-847-10	PB-847-10-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00098	7/8/2022	7/13/2022
PB-847-10	PB-847-10-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00049	7/8/2022	7/13/2022
PB-847-10	PB-847-10-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/8/2022	7/13/2022
PB-847-10	PB-847-10-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00098	7/8/2022	7/13/2022
PB-847-10	PB-847-10-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00049	7/8/2022	7/13/2022
PB-847-10	PB-847-10-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/8/2022	7/13/2022
PB-847-10	PB-847-10-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/8/2022	7/13/2022
PB-847-10	PB-847-10-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-11	PB-847-11-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-11	PB-847-11-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/8/2022	7/11/2022
PB-847-11	PB-847-11-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-11	PB-847-11-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/8/2022	7/11/2022
PB-847-11	PB-847-11-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-11	PB-847-11-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/8/2022	7/11/2022
PB-847-11	PB-847-11-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/8/2022	7/11/2022
PB-847-11	PB-847-11-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-11	PB-847-11-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-11	PB-847-11-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-11	PB-847-11-SS01	3	3.5	Lead	SW6010D	Soil	4.97	4.44	7/8/2022	7/15/2022
PB-847-11	PB-847-11-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/8/2022	7/13/2022
PB-847-11	PB-847-11-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00049	7/8/2022	7/13/2022
PB-847-11	PB-847-11-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00098	7/8/2022	7/13/2022
PB-847-11	PB-847-11-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/8/2022	7/13/2022
PB-847-11	PB-847-11-SS01	3	3.5	Cumene	SW8260C	Soil	0.00012	0.00098	7/8/2022	7/13/2022
PB-847-11	PB-847-11-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00098	7/8/2022	7/13/2022
PB-847-11	PB-847-11-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.0035	0.002	7/8/2022	7/13/2022
PB-847-11	PB-847-11-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00098	7/8/2022	7/13/2022
PB-847-11	PB-847-11-SS01	3	3.5	Benzene	SW8260C	Soil	0.00047	0.00049	7/8/2022	7/13/2022
PB-847-11	PB-847-11-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/8/2022	7/13/2022
PB-847-12	PB-847-12-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-12	PB-847-12-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/8/2022	7/11/2022
PB-847-12	PB-847-12-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-12	PB-847-12-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/8/2022	7/11/2022
PB-847-12	PB-847-12-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-12	PB-847-12-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.19	7/8/2022	7/11/2022
PB-847-12	PB-847-12-SS01	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-12	PB-847-12-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-12	PB-847-12-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.00087	7/8/2022	7/15/2022
PB-847-12	PB-847-12-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.19	7/8/2022	7/11/2022
PB-847-12	PB-847-12-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00043	7/8/2022	7/15/2022
PB-847-12	PB-847-12-SS01	4.5	5	Lead	SW6010D	Soil	6.35	4.54	7/8/2022	7/15/2022
PB-847-12	PB-847-12-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-12	PB-847-12-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.02	0.0017	7/8/2022	7/15/2022
PB-847-12	PB-847-12-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	0.0009	0.0017	7/8/2022	7/15/2022
PB-847-12	PB-847-12-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00087	7/8/2022	7/15/2022
PB-847-12	PB-847-12-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.054	0.0017	7/8/2022	7/15/2022
PB-847-12	PB-847-12-SS01	4.5	5	Benzene	SW8260C	Soil	ND	0.00043	7/8/2022	7/15/2022
PB-847-12	PB-847-12-SS01	4.5	5	Cumene	SW8260C	Soil	0.013	0.00087	7/8/2022	7/15/2022
PB-847-12	PB-847-12-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	0.0028	0.00087	7/8/2022	7/15/2022
PB-847-12	PB-847-12-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0017	7/8/2022	7/15/2022
PB-847-13	PB-847-13-SS01	4	4.5	Phenanthrene	SW8270D	Soil	0.29	0.12	7/8/2022	7/11/2022
PB-847-13	PB-847-13-SS01	4	4.5	Anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-13	PB-847-13-SS01	4	4.5	Naphthalene	SW8270D	Soil	0.13	0.19	7/8/2022	7/11/2022
PB-847-13	PB-847-13-SS01	4	4.5	Fluorene	SW8270D	Soil	0.12	0.19	7/8/2022	7/11/2022
PB-847-13	PB-847-13-SS01	4	4.5	Chrysene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-13	PB-847-13-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/8/2022	7/11/2022
PB-847-13	PB-847-13-SS01	4	4.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-13	PB-847-13-SS01	4	4.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/8/2022	7/11/2022
PB-847-13	PB-847-13-SS01	4	4.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-13	PB-847-13-SS01	4	4.5	Pyrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-13	PB-847-13-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.21	7/8/2022	7/15/2022
PB-847-13	PB-847-13-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	0.23	0.43	7/8/2022	7/15/2022
PB-847-13	PB-847-13-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.11	7/8/2022	7/15/2022
PB-847-13	PB-847-13-SS01	4	4.5	Lead	SW6010D	Soil	3.88	2.3	7/8/2022	7/15/2022
PB-847-13	PB-847-13-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	1.4	0.43	7/8/2022	7/15/2022
PB-847-13	PB-847-13-SS01	4	4.5	Benzene	SW8260C	Soil	0.051	0.11	7/8/2022	7/15/2022
PB-847-13	PB-847-13-SS01	4	4.5	Cumene	SW8260C	Soil	0.94	0.21	7/8/2022	7/15/2022
PB-847-13	PB-847-13-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	0.2	0.21	7/8/2022	7/15/2022
PB-847-13	PB-847-13-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.43	7/8/2022	7/15/2022
PB-847-13	PB-847-13-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.21	7/8/2022	7/15/2022
PB-847-13	PB-847-13-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	2.2	0.43	7/8/2022	7/15/2022
PB-847-14	PB-847-14-SS01	3.5	4	Chrysene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-14	PB-847-14-SS01	3.5	4	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-14	PB-847-14-SS01	3.5	4	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-14	PB-847-14-SS01	3.5	4	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-14	PB-847-14-SS01	3.5	4	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-14	PB-847-14-SS01	3.5	4	Fluorene	SW8270D	Soil	ND	0.2	7/8/2022	7/11/2022
PB-847-14	PB-847-14-SS01	3.5	4	Naphthalene	SW8270D	Soil	0.043	0.2	7/8/2022	7/11/2022
PB-847-14	PB-847-14-SS01	3.5	4	Anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-14	PB-847-14-SS01	3.5	4	Lead	SW6010D	Soil	5.24	4.85	7/8/2022	7/15/2022
PB-847-14	PB-847-14-SS01	3.5	4	Phenanthrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-14	PB-847-14-SS01	3.5	4	Pyrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-14	PB-847-14-SS01	3.5	4	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.5	7/8/2022	7/13/2022
PB-847-14	PB-847-14-SS01	3.5	4	Toluene	SW8260C	Soil	ND	0.25	7/8/2022	7/13/2022
PB-847-14	PB-847-14-SS01	3.5	4	Methyl tert-butyl ether	SW8260C	Soil	ND	0.5	7/8/2022	7/13/2022
PB-847-14	PB-847-14-SS01	3.5	4	Ethyl Benzene	SW8260C	Soil	ND	0.25	7/8/2022	7/13/2022
PB-847-14	PB-847-14-SS01	3.5	4	Cumene	SW8260C	Soil	1.3	0.25	7/8/2022	7/13/2022
PB-847-14	PB-847-14-SS01	3.5	4	Benzene	SW8260C	Soil	ND	0.12	7/8/2022	7/13/2022
PB-847-14	PB-847-14-SS01	3.5	4	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.5	7/8/2022	7/13/2022
PB-847-14	PB-847-14-SS01	3.5	4	1,2-Dichloroethane	SW8260C	Soil	ND	0.25	7/8/2022	7/13/2022
PB-847-14	PB-847-14-SS01	3.5	4	1,2-Dibromoethane	SW8260C	Soil	ND	0.12	7/8/2022	7/13/2022
PB-847-14	PB-847-14-SS01	3.5	4	Xylenes (total)	SW8260C	Soil	ND	0.5	7/8/2022	7/13/2022
PB-847-15	PB-847-15-SS01	4	4.5	Benzo(a)anthracene	SW8270D	Soil	ND	1.1	7/8/2022	7/15/2022
PB-847-15	PB-847-15-SS01	4	4.5	Benzo(a)pyrene	SW8270D	Soil	ND	1.5	7/8/2022	7/15/2022
PB-847-15	PB-847-15-SS01	4	4.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	1.1	7/8/2022	7/15/2022

Table 7 - 055A (PB 847)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-847-15	PB-847-15-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	1.5	7/8/2022	7/15/2022
PB-847-15	PB-847-15-SS01	4	4.5	Chrysene	SW8270D	Soil	ND	1.1	7/8/2022	7/15/2022
PB-847-15	PB-847-15-SS01	4	4.5	Fluorene	SW8270D	Soil	5.3	1.9	7/8/2022	7/15/2022
PB-847-15	PB-847-15-SS01	4	4.5	Naphthalene	SW8270D	Soil	7	1.9	7/8/2022	7/15/2022
PB-847-15	PB-847-15-SS01	4	4.5	Lead	SW6010D	Soil	5.06	4.52	7/8/2022	7/15/2022
PB-847-15	PB-847-15-SS01	4	4.5	Pyrene	SW8270D	Soil	0.5	1.1	7/8/2022	7/15/2022
PB-847-15	PB-847-15-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.23	7/8/2022	7/13/2022
PB-847-15	PB-847-15-SS01	4	4.5	Phenanthrene	SW8270D	Soil	12	1.1	7/8/2022	7/15/2022
PB-847-15	PB-847-15-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.46	7/8/2022	7/13/2022
PB-847-15	PB-847-15-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	0.24	0.23	7/8/2022	7/13/2022
PB-847-15	PB-847-15-SS01	4	4.5	Cumene	SW8260C	Soil	1.2	0.23	7/8/2022	7/13/2022
PB-847-15	PB-847-15-SS01	4	4.5	Benzene	SW8260C	Soil	0.063	0.12	7/8/2022	7/13/2022
PB-847-15	PB-847-15-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	1.8	0.46	7/8/2022	7/13/2022
PB-847-15	PB-847-15-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.23	7/8/2022	7/13/2022
PB-847-15	PB-847-15-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.12	7/8/2022	7/13/2022
PB-847-15	PB-847-15-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	2.8	0.46	7/8/2022	7/13/2022
PB-847-15	PB-847-15-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	0.27	0.46	7/8/2022	7/13/2022
PB-847-15	PB-847-15-SS01	4	4.5	Anthracene	SW8270D	Soil	1.7	1.1	7/8/2022	7/15/2022
PB-847-16	PB-847-16-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-16	PB-847-16-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-16	PB-847-16-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-16	PB-847-16-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-16	PB-847-16-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-16	PB-847-16-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-16	PB-847-16-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/8/2022	7/11/2022
PB-847-16	PB-847-16-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	7/8/2022	7/11/2022
PB-847-16	PB-847-16-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-16	PB-847-16-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-16	PB-847-16-SS01	3	3.5	Lead	SW6010D	Soil	5.17	2.4	7/8/2022	7/15/2022
PB-847-16	PB-847-16-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0019	7/8/2022	7/13/2022
PB-847-16	PB-847-16-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/8/2022	7/13/2022
PB-847-16	PB-847-16-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00047	7/8/2022	7/13/2022
PB-847-16	PB-847-16-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00094	7/8/2022	7/13/2022
PB-847-16	PB-847-16-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/8/2022	7/13/2022
PB-847-16	PB-847-16-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00047	7/8/2022	7/13/2022
PB-847-16	PB-847-16-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00094	7/8/2022	7/13/2022
PB-847-16	PB-847-16-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00094	7/8/2022	7/13/2022
PB-847-16	PB-847-16-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0019	7/8/2022	7/13/2022
PB-847-16	PB-847-16-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00094	7/8/2022	7/13/2022
PB-847-17	PB-847-17-SS01	3.5	4	Toluene	SW8260C	Soil	0.00073	0.0011	7/8/2022	7/13/2022
PB-847-17	PB-847-17-SS01	3.5	4	Phenanthrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-17	PB-847-17-SS01	3.5	4	Naphthalene	SW8270D	Soil	ND	0.2	7/8/2022	7/11/2022
PB-847-17	PB-847-17-SS01	3.5	4	Fluorene	SW8270D	Soil	ND	0.2	7/8/2022	7/11/2022
PB-847-17	PB-847-17-SS01	3.5	4	Chrysene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-17	PB-847-17-SS01	3.5	4	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-17	PB-847-17-SS01	3.5	4	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-17	PB-847-17-SS01	3.5	4	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/8/2022	7/11/2022
PB-847-17	PB-847-17-SS01	3.5	4	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-17	PB-847-17-SS01	3.5	4	Pyrene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-17	PB-847-17-SS01	3.5	4	1,2,4-Trimethylbenzene	SW8260C	Soil	0.11	0.0021	7/8/2022	7/13/2022
PB-847-17	PB-847-17-SS01	3.5	4	Anthracene	SW8270D	Soil	ND	0.12	7/8/2022	7/11/2022
PB-847-17	PB-847-17-SS01	3.5	4	Lead	SW6010D	Soil	5.26	4.7	7/8/2022	7/15/2022
PB-847-17	PB-847-17-SS01	3.5	4	Xylenes (total)	SW8260C	Soil	0.0167	0.0021	7/8/2022	7/13/2022
PB-847-17	PB-847-17-SS01	3.5	4	1,2-Dibromoethane	SW8260C	Soil	ND	0.00053	7/8/2022	7/13/2022
PB-847-17	PB-847-17-SS01	3.5	4	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/8/2022	7/13/2022
PB-847-17	PB-847-17-SS01	3.5	4	1,3,5-Trimethylbenzene	SW8260C	Soil	0.0088	0.0021	7/8/2022	7/13/2022
PB-847-17	PB-847-17-SS01	3.5	4	Benzene	SW8260C	Soil	0.0042	0.00053	7/8/2022	7/13/2022
PB-847-17	PB-847-17-SS01	3.5	4	Cumene	SW8260C	Soil	0.027	0.0011	7/8/2022	7/13/2022
PB-847-17	PB-847-17-SS01	3.5	4	Ethyl Benzene	SW8260C	Soil	0.018	0.0011	7/8/2022	7/13/2022
PB-847-17	PB-847-17-SS01	3.5	4	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0021	7/8/2022	7/13/2022

Notes:
SS -- Soil Sample.
DUP-37 is a field duplicate associated with sample PB-847-02-SS01.



File: N:\GIS\Pr\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For AST Closure Report\Figure 7 - 055A (PB 847).mxd 12/30/2022 Created by: JD Checked by: Initial Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

SAFETY FIRST

terraphase engineering

CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

Site Location and Sampling Map 055A (PB 847)

Figure 7

Photograph 1:

View of Tank 055A (PB 847) during demolition.

Photograph 2:

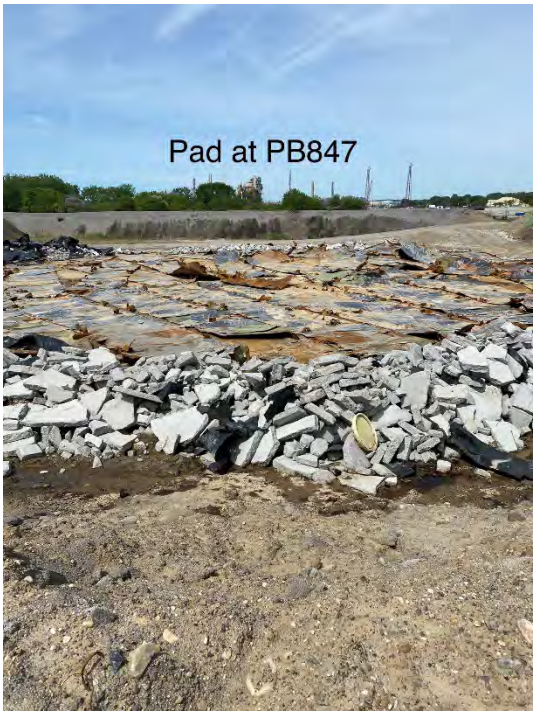
View of Tank 055A (PB 847) during demolition.

Photograph 3:

View of scrap piles and the concrete pad during demolition.

Photograph 4:

View of scrap piles during demolition.

	**Photograph 5:** View of the pad during demolition.
	Photograph 6: View of soil following demolition.

Product Movement and Waste Disposal Documentation (Tank 055A)

NorthStar Contracting Group, Inc.

PES Project Load Ticket

S120103.

Load Ticket: 15654A

Date: 01-31-22

Scrap

Sold to: Allegany

Location: Tank 247

Carrier: Allegany

Steel / Ferrous

- ☐ No. 1 P+S
- ☐ No. 2 Heavy Melt
- ☐ Cast Iron
- ☐ Mixed
- ☐ Pipe
- ☐ Light Iron
- ☐ Re-Bar
- ☐ Other Tank Plate

Non-Ferrous

- ☐ Insulated Copper Wire
- ☐ No. 1 Copper Wire
- ☐ Brass
- ☐ Aluminum
- ☐ Stainless, Grade_____
- ☐ Other Alloy, Grade_____
- ☐ Mixed
- ☐ Other: _____

Condition

- ☐ Prepared
- ☐ Unprepared
- ☐ Green Waste
- ☐ Concrete
- ☐ Masonry
- ☐ Mixed Masonry
- ☐ Wood Only
- ☐ Demo Debris (C&D)
- ☐ Dirt / Fill
- ☐ Sand Fill
- ☐ Crushed Stone
- ☐ Other:_____

Scale Ticket #:_____

Gross Weight: 61740 lbs

Tare Weight: 42400 lbs

Net Weight: 19340 lbs

NorthStar Rep. Signature: _____

Received By: _____

Non-Haz / ACM / Special Waste

Activity Location: _____

Waste Stream

- ☐ C&D Demolition Debris
- ☐ Non-Friable ACM
- ☐ Friable ACM
- ☐ PB WWTP Sludge
- ☐ GP WWTP Sludge
- ☐ Characteristic Haz Waste (flammable D001, corrosive D002, reactive D003, toxicity D004 –D043)
- ☐ Process Haz Waste
- ☐ Demo Debris (C&D)
- ☐ Non-Haz Waste (Solid)
- ☐ Non-Haz Waste (Liquid)
- ☐ PCB (Non-TSCA)
- ☐ PCB (TSCA)

Disposal Facility:_____

Carrier:_____

Truck #:_____

Container #:_____

Manifest #:_____

Profile / Approval #:_____

Scale Info

Scale Ticket #:_____

Gross Weight:_____

Tare weight:_____

Net weight:_____

Net Kilogram Conversion (PCB Only):_____

NorthStar Rep. Signature:_____

HILCO REDEVELOPEMENT PARTNERS
3144 W. PASSYUNK AVE

PHILADELPHIA PA, 19145

Ticket #: 20033819
Date: 01/31/2022 9:41 AM
Phone: ( ) -
Fax: ( ) -

Customer: HILCO
HILCO

,

Order Number: 001
SCRAP REMOVAL
Tons: 116672.561
Loads: 7593

DT327-1109 - ALLEGHENY TRUCK 327-1109
CARLAD - CARLA DAVILA

Remarks: SCRAP REMOVAL

Signature: _____

Material	Quantity	Price	Material $	Delivery $	Misc $	Tax $	Line Total $
SCRAP	9.67 tn						

Weight Information

Material	Gross	Tare	Net
SCRAP	61740.00	42400.00	19340.00

1959

ABOVEGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

SECTION III. Site Assessment Information

Tank Registration # 088A (complete one sheet for EACH tank system and attach ALL laboratory sheets pertaining to that system)

Facility ID Number 51 - 33620

A. Provide depth of *BEDROCK* and *WATER* IF encountered during excavation or soil boring (write "N/A": if NOT encountered).

Bedrock N/A feet below land surface Water 15 feet below land surface

B. Provide Length of *PIPING* IF piping was closed-in-place (write "N/A" if NOT closed-in-place).

Length of piping N/A feet

C. TANK SYSTEM REMOVED FROM THE GROUND/SITE

1). Was obvious contamination observed while excavating, sampling or removing the tank system?

☒ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records ----→ Do not complete item C.2. below.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

---→ Complete item C.2. below.

2). Was contamination localized (within three feet of the tank system in every direction with no obvious water contamination)?

☐ YES ----→ Remove or remediate contaminated soil ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ NO ----→ Continue Interim Remedial Actions ----→ See end of this section for options on submission and maintenance of closure records.

D. TANK SYSTEM CLOSED-IN-PLACE OR CHANGED-IN-SERVICE

Was obvious contamination observed during sampling, boring or assessing water depths?

☐ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

Continue with corrective action ----→ See end of this section for options on submission and maintenance of closure records.

E. If the answer to C.1. is "no", the answer to C.2. is "yes" or the answer to D. is "no", confirmatory samples are required. Use the sample/analysis information sheet on page 10 of 11 to provide the information on confirmatory sampling and complete the diagram on Page 11 of 11.

Options for Submission and Maintenance of Closure Site Assessment Records

Records of the site assessment must be maintained for at least three years after completion of permanent closure or change-in-service in one of the following ways:

(a) By the owners and operators who took the tank system out of service;
(b) By the current owners and operators of the tank system site; or
(c) By mailing these records to the DEP regional office responsible for the county in which the tank is located if they cannot be maintained at the closed facility.

Where the results of the site assessment indicate that obvious, localized soil contamination was encountered and the analytical results of the confirmatory sampling show levels below the statewide standard/action levels, this closure report form (Sections I, II, and III) or some other acceptable site characterization report must be received by the Department within 180 days of verbally reporting the release.

Where the results of the site assessment indicate that no obvious contamination or obvious, localized contamination was encountered, but the analytical results of the confirmatory sampling show levels above the statewide standard/action levels, or where there is obvious, extensive contamination, Section 245.310(a)(8) of the Corrective Action Process (CAP) regulations requires that details of removal from service be included in the site characterization report. A copy of the completed closure report form should be submitted as part of the site characterization report to satisfy the requirements of Section 245.310(a)(8) of the CAP regulations.

I, Kevin Long , hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating to unsworn
(Print Name)
falsification to authorities) that I am the person who performed the site assessment activities associated with the closure of the above referenced storage tank system(s) and that the information provided by me in this closure report (Section III) is true, accurate and complete to the best of my knowledge and belief.

Kevin L. Long

Signature of Person Performing Site Assessment

2 / 1 / 2023
Date

Principal Consultant
Title of Person Performing Site Assessment

Terraphase Engineering, Inc.
Name of Company Performing Site Assessment

609-236-8171 x93
Telephone Number of Person Performing Site Assessment

ABOVEGROUND STORAGE TANK SYSTEM
CLOSURE REPORT FORM

Sample/Analysis Information
(Attachment for Section III.)

Facility ID Number 51 - 33620

Sample I.D. (See diagram)	Parameter	Analytical Method[1]		Media	Result (units)	Detection Limit (units)	Date Sample Taken	Date Sample Analyzed
See attached summary table							/ /	/ /
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[1] Where EPA Method 5035 is used, indicate sample collection option in the right-hand box of this column using the following codes:

P - Samples placed in a soil sample vial with a preservative present.
E - Samples collected and stored in a soil collection device which is airtight and affords little to no headspace.

N - Samples placed in soil sample vial without a preservative present.

Site Location and Sampling Map - Use this page or suitable facsimile to provide a large-scale map of the site where storage tank systems were closed. Scales between 1" = 10 and 1" = 100 feet frequently work well. Include the following information as each applies to the site: facility name and I.D., county, township or borough, property boundaries or area of interest, buildings, roads and streets with names or route numbers, utilities, location and ID number of storage tank systems removed including piping and dispensers, soil stockpile locations, excavations or other locations of product recovery, north arrow, approximate map scale and legend. Also, show depth and location of samples with sample ID numbers cross-referenced to the same ID numbers shown on Page 10 of 11.

Facility Name and ID: -

County:

Township/Borough: See attached Figure

Table 13 - 088A (PB 848)

Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-848-01	PB-848-01-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	7/11/2022	7/14/2022
PB-848-01	PB-848-01-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-01	PB-848-01-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-848-01	PB-848-01-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-848-01	PB-848-01-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-01	PB-848-01-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-01	PB-848-01-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-01	PB-848-01-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-01	PB-848-01-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-01	PB-848-01-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-01	PB-848-01-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0023	7/11/2022	7/14/2022
PB-848-01	PB-848-01-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-01	PB-848-01-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.00155	0.0023	7/11/2022	7/14/2022
PB-848-01	PB-848-01-SS01	3	3.5	Lead	SW6010D	Soil	6.75	2.41	7/11/2022	7/16/2022
PB-848-01	PB-848-01-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00058	7/11/2022	7/14/2022
PB-848-01	PB-848-01-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/11/2022	7/14/2022
PB-848-01	PB-848-01-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.00026	0.0023	7/11/2022	7/14/2022
PB-848-01	PB-848-01-SS01	3	3.5	Benzene	SW8260C	Soil	0.001	0.00058	7/11/2022	7/14/2022
PB-848-01	PB-848-01-SS01	3	3.5	Cumene	SW8260C	Soil	0.00014	0.0012	7/11/2022	7/14/2022
PB-848-01	PB-848-01-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/11/2022	7/14/2022
PB-848-01	PB-848-01-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0023	7/11/2022	7/14/2022
PB-848-02	PB-848-02-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00094	7/11/2022	7/14/2022
PB-848-02	PB-848-02-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-848-02	PB-848-02-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-848-02	PB-848-02-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-02	PB-848-02-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-848-02	PB-848-02-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-02	PB-848-02-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-848-02	PB-848-02-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-02	PB-848-02-SS01	3	3.5	Pyrene	SW8270D	Soil	0.029	0.12	7/11/2022	7/13/2022
PB-848-02	PB-848-02-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-02	PB-848-02-SS01	3	3.5	Lead	SW6010D	Soil	26.2	4.38	7/11/2022	7/18/2022
PB-848-02	PB-848-02-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0019	7/11/2022	7/14/2022
PB-848-02	PB-848-02-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00094	7/11/2022	7/14/2022
PB-848-02	PB-848-02-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00094	7/11/2022	7/14/2022
PB-848-02	PB-848-02-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00047	7/11/2022	7/14/2022
PB-848-02	PB-848-02-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/11/2022	7/14/2022
PB-848-02	PB-848-02-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00094	7/11/2022	7/14/2022
PB-848-02	PB-848-02-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00047	7/11/2022	7/14/2022
PB-848-02	PB-848-02-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/11/2022	7/14/2022
PB-848-02	PB-848-02-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0019	7/11/2022	7/14/2022
PB-848-02	PB-848-02-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-03	PB-848-03-SS01	3	3.5	Pyrene	SW8270D	Soil	0.024	0.11	7/11/2022	7/13/2022
PB-848-03	PB-848-03-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-848-03	PB-848-03-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-848-03	PB-848-03-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-848-03	PB-848-03-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-848-03	PB-848-03-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-848-03	PB-848-03-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/11/2022	7/13/2022
PB-848-03	PB-848-03-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/11/2022	7/13/2022
PB-848-03	PB-848-03-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/11/2022	7/14/2022
PB-848-03	PB-848-03-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-848-03	PB-848-03-SS01	3	3.5	Lead	SW6010D	Soil	51.6	4.24	7/11/2022	7/17/2022
PB-848-03	PB-848-03-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	7/11/2022	7/14/2022
PB-848-03	PB-848-03-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/11/2022	7/13/2022
PB-848-03	PB-848-03-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/11/2022	7/14/2022
PB-848-03	PB-848-03-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00055	7/11/2022	7/14/2022
PB-848-03	PB-848-03-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/11/2022	7/14/2022
PB-848-03	PB-848-03-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/11/2022	7/14/2022
PB-848-03	PB-848-03-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00055	7/11/2022	7/14/2022
PB-848-03	PB-848-03-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	7/11/2022	7/14/2022
PB-848-03	PB-848-03-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/11/2022	7/14/2022
PB-848-03	PB-848-03-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	7/11/2022	7/14/2022
PB-848-04	PB-848-04-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.25	7/11/2022	7/14/2022
PB-848-04	PB-848-04-SS01	4	4.5	Phenanthrene	SW8270D	Soil	1.9	0.12	7/11/2022	7/13/2022
PB-848-04	PB-848-04-SS01	4	4.5	Naphthalene	SW8270D	Soil	1.4	0.2	7/11/2022	7/13/2022
PB-848-04	PB-848-04-SS01	4	4.5	Fluorene	SW8270D	Soil	2.3	0.2	7/11/2022	7/13/2022
PB-848-04	PB-848-04-SS01	4	4.5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-04	PB-848-04-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-04	PB-848-04-SS01	4	4.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-04	PB-848-04-SS01	4	4.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-04	PB-848-04-SS01	4	4.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-04	PB-848-04-SS01	4	4.5	Pyrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-04	PB-848-04-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	4.3	0.51	7/11/2022	7/14/2022
PB-848-04	PB-848-04-SS01	4	4.5	Anthracene	SW8270D	Soil	0.29	0.12	7/11/2022	7/13/2022
PB-848-04	PB-848-04-SS01	4	4.5	Lead	SW6010D	Soil	716	2.44	7/11/2022	7/16/2022
PB-848-04	PB-848-04-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	3.82	0.51	7/11/2022	7/14/2022
PB-848-04	PB-848-04-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.13	7/11/2022	7/14/2022
PB-848-04	PB-848-04-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.25	7/11/2022	7/14/2022
PB-848-04	PB-848-04-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	2.7	0.51	7/11/2022	7/14/2022
PB-848-04	PB-848-04-SS01	4	4.5	Benzene	SW8260C	Soil	1.8	0.13	7/11/2022	7/14/2022
PB-848-04	PB-848-04-SS01	4	4.5	Cumene	SW8260C	Soil	0.46	0.25	7/11/2022	7/14/2022
PB-848-04	PB-848-04-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	0.9	0.25	7/11/2022	7/14/2022
PB-848-04	PB-848-04-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.51	7/11/2022	7/14/2022
PB-848-05	DUP-39	3	3.5	Toluene	SW8260C	Soil	ND	0.00098	7/11/2022	7/15/2022
PB-848-05	DUP-39	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-848-05	DUP-39	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-848-05	DUP-39	3	3.5	Chrysene	SW8270D	Soil	0.048	0.12	7/11/2022	7/13/2022
PB-848-05	DUP-39	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.026	0.16	7/11/2022	7/13/2022
PB-848-05	DUP-39	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.053	0.12	7/11/2022	7/13/2022
PB-848-05	DUP-39	3	3.5	Benzo(a)pyrene	SW8270D	Soil	0.048	0.16	7/11/2022	7/13/2022
PB-848-05	DUP-39	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.055	0.12	7/11/2022	7/13/2022
PB-848-05	DUP-39	3	3.5	Pyrene	SW8270D	Soil	0.08	0.12	7/11/2022	7/13/2022
PB-848-05	DUP-39	3	3.5	Phenanthrene	SW8270D	Soil	0.091	0.12	7/11/2022	7/13/2022
PB-848-05	DUP-39	3	3.5	Lead	SW6010D	Soil	18.8	2.22	7/11/2022	7/16/2022
PB-848-05	DUP-39	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.00057	0.002	7/11/2022	7/15/2022
PB-848-05	DUP-39	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00098	7/11/2022	7/15/2022
PB-848-05	DUP-39	3	3.5	Cumene	SW8260C	Soil	ND	0.00098	7/11/2022	7/15/2022
PB-848-05	DUP-39	3	3.5	Benzene	SW8260C	Soil	ND	0.00049	7/11/2022	7/15/2022
PB-848-05	DUP-39	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/11/2022	7/15/2022
PB-848-05	DUP-39	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00098	7/11/2022	7/15/2022
PB-848-05	DUP-39	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00049	7/11/2022	7/15/2022
PB-848-05	DUP-39	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/11/2022	7/15/2022
PB-848-05	DUP-39	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-05	DUP-39	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/11/2022	7/15/2022
PB-848-05	PB-848-05-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022

Table 13 - 088A (PB 848)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-848-05	PB-848-05-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-05	PB-848-05-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-05	PB-848-05-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-05	PB-848-05-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-05	PB-848-05-SS01	3	3.5	Fluorene	SW8270D	Soil	0.069	0.2	7/11/2022	7/13/2022
PB-848-05	PB-848-05-SS01	3	3.5	Naphthalene	SW8270D	Soil	0.034	0.2	7/11/2022	7/13/2022
PB-848-05	PB-848-05-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-05	PB-848-05-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/11/2022	7/14/2022
PB-848-05	PB-848-05-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.054	0.12	7/11/2022	7/13/2022
PB-848-05	PB-848-05-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00056	7/11/2022	7/14/2022
PB-848-05	PB-848-05-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-05	PB-848-05-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	7/11/2022	7/14/2022
PB-848-05	PB-848-05-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/11/2022	7/14/2022
PB-848-05	PB-848-05-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/11/2022	7/14/2022
PB-848-05	PB-848-05-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/11/2022	7/14/2022
PB-848-05	PB-848-05-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00056	7/11/2022	7/14/2022
PB-848-05	PB-848-05-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	7/11/2022	7/14/2022
PB-848-05	PB-848-05-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/11/2022	7/14/2022
PB-848-05	PB-848-05-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.00074	0.0022	7/11/2022	7/14/2022
PB-848-05	PB-848-05-SS01	3	3.5	Lead	SW6010D	Soil	8.21	4.59	7/11/2022	7/17/2022
PB-848-06	PB-848-06-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-06	PB-848-06-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-06	PB-848-06-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-06	PB-848-06-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-06	PB-848-06-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-06	PB-848-06-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-06	PB-848-06-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.032	7/11/2022	7/15/2022
PB-848-06	PB-848-06-SS01	4.5	5	Fluorene	SW8270D	Soil	0.14	0.2	7/11/2022	7/13/2022
PB-848-06	PB-848-06-SS01	4.5	5	Naphthalene	SW8270D	Soil	1.7	0.2	7/11/2022	7/13/2022
PB-848-06	PB-848-06-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-06	PB-848-06-SS01	4.5	5	Phenanthrene	SW8270D	Soil	0.15	0.12	7/11/2022	7/13/2022
PB-848-06	PB-848-06-SS01	4.5	5	Lead	SW6010D	Soil	7.2	2.39	7/11/2022	7/16/2022
PB-848-06	PB-848-06-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.13	7/11/2022	7/15/2022
PB-848-06	PB-848-06-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	35	1.3	7/11/2022	7/14/2022
PB-848-06	PB-848-06-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.16	0.13	7/11/2022	7/15/2022
PB-848-06	PB-848-06-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.064	7/11/2022	7/15/2022
PB-848-06	PB-848-06-SS01	4.5	5	Benzene	SW8260C	Soil	ND	0.032	7/11/2022	7/15/2022
PB-848-06	PB-848-06-SS01	4.5	5	Cumene	SW8260C	Soil	3	0.064	7/11/2022	7/15/2022
PB-848-06	PB-848-06-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	1	0.064	7/11/2022	7/15/2022
PB-848-06	PB-848-06-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.13	7/11/2022	7/15/2022
PB-848-06	PB-848-06-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.064	7/11/2022	7/15/2022
PB-848-07	PB-848-07-SS01	4.5	5	Toluene	SW8260C	Soil	0.087	0.067	7/11/2022	7/15/2022
PB-848-07	PB-848-07-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	0.562	0.13	7/11/2022	7/15/2022
PB-848-07	PB-848-07-SS01	4.5	5	Naphthalene	SW8270D	Soil	0.26	0.2	7/11/2022	7/13/2022
PB-848-07	PB-848-07-SS01	4.5	5	Fluorene	SW8270D	Soil	0.089	0.2	7/11/2022	7/13/2022
PB-848-07	PB-848-07-SS01	4.5	5	Chrysene	SW8270D	Soil	0.028	0.12	7/11/2022	7/13/2022
PB-848-07	PB-848-07-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	0.064	0.16	7/11/2022	7/13/2022
PB-848-07	PB-848-07-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	0.049	0.12	7/11/2022	7/13/2022
PB-848-07	PB-848-07-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	0.065	0.16	7/11/2022	7/13/2022
PB-848-07	PB-848-07-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	0.025	0.12	7/11/2022	7/13/2022
PB-848-07	PB-848-07-SS01	4.5	5	Phenanthrene	SW8270D	Soil	0.059	0.12	7/11/2022	7/13/2022
PB-848-07	PB-848-07-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	2.2	0.13	7/11/2022	7/15/2022
PB-848-07	PB-848-07-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-07	PB-848-07-SS01	4.5	5	Lead	SW6010D	Soil	3200	4.73	7/11/2022	7/17/2022
PB-848-07	PB-848-07-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-07	PB-848-07-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.034	7/11/2022	7/15/2022
PB-848-07	PB-848-07-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.067	7/11/2022	7/15/2022
PB-848-07	PB-848-07-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	1	0.13	7/11/2022	7/15/2022
PB-848-07	PB-848-07-SS01	4.5	5	Benzene	SW8260C	Soil	0.14	0.034	7/11/2022	7/15/2022
PB-848-07	PB-848-07-SS01	4.5	5	Cumene	SW8260C	Soil	1.1	0.067	7/11/2022	7/15/2022
PB-848-07	PB-848-07-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	1.6	0.067	7/11/2022	7/15/2022
PB-848-07	PB-848-07-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.13	7/11/2022	7/15/2022
PB-848-08	PB-848-08-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	0.00133	0.0018	7/11/2022	7/15/2022
PB-848-08	PB-848-08-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-848-08	PB-848-08-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-848-08	PB-848-08-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-08	PB-848-08-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-08	PB-848-08-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-08	PB-848-08-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-08	PB-848-08-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-08	PB-848-08-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-08	PB-848-08-SS01	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-08	PB-848-08-SS01	4.5	5	Lead	SW6010D	Soil	246	4.7	7/11/2022	7/17/2022
PB-848-08	PB-848-08-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.037	0.0018	7/11/2022	7/15/2022
PB-848-08	PB-848-08-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-08	PB-848-08-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.00092	7/11/2022	7/15/2022
PB-848-08	PB-848-08-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00046	7/11/2022	7/15/2022
PB-848-08	PB-848-08-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00092	7/11/2022	7/15/2022
PB-848-08	PB-848-08-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.0047	0.0018	7/11/2022	7/15/2022
PB-848-08	PB-848-08-SS01	4.5	5	Benzene	SW8260C	Soil	0.0003	0.00046	7/11/2022	7/15/2022
PB-848-08	PB-848-08-SS01	4.5	5	Cumene	SW8260C	Soil	0.0099	0.00092	7/11/2022	7/15/2022
PB-848-08	PB-848-08-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	0.0067	0.00092	7/11/2022	7/15/2022
PB-848-08	PB-848-08-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/11/2022	7/15/2022
PB-848-09	PB-848-09-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-09	PB-848-09-SS01	4.5	5	Phenanthrene	SW8270D	Soil	0.034	0.12	7/11/2022	7/13/2022
PB-848-09	PB-848-09-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-848-09	PB-848-09-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-848-09	PB-848-09-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-09	PB-848-09-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-09	PB-848-09-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-09	PB-848-09-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-09	PB-848-09-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-09	PB-848-09-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-09	PB-848-09-SS01	4.5	5	Lead	SW6010D	Soil	1140	2.41	7/11/2022	7/16/2022
PB-848-09	PB-848-09-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.00098	7/11/2022	7/15/2022
PB-848-09	PB-848-09-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/11/2022	7/15/2022
PB-848-09	PB-848-09-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	0.00046	0.00098	7/11/2022	7/15/2022
PB-848-09	PB-848-09-SS01	4.5	5	Cumene	SW8260C	Soil	0.0011	0.00098	7/11/2022	7/15/2022
PB-848-09	PB-848-09-SS01	4.5	5	Benzene	SW8260C	Soil	0.00022	0.00049	7/11/2022	7/15/2022
PB-848-09	PB-848-09-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.00028	0.002	7/11/2022	7/15/2022
PB-848-09	PB-848-09-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00098	7/11/2022	7/15/2022
PB-848-09	PB-848-09-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00049	7/11/2022	7/15/2022
PB-848-09	PB-848-09-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.0013	0.002	7/11/2022	7/15/2022
PB-848-09	PB-848-09-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	0.00093	0.002	7/11/2022	7/15/2022
PB-848-10	PB-848-10-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.14	7/11/2022	7/13/2022
PB-848-10	PB-848-10-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.18	7/11/2022	7/13/2022

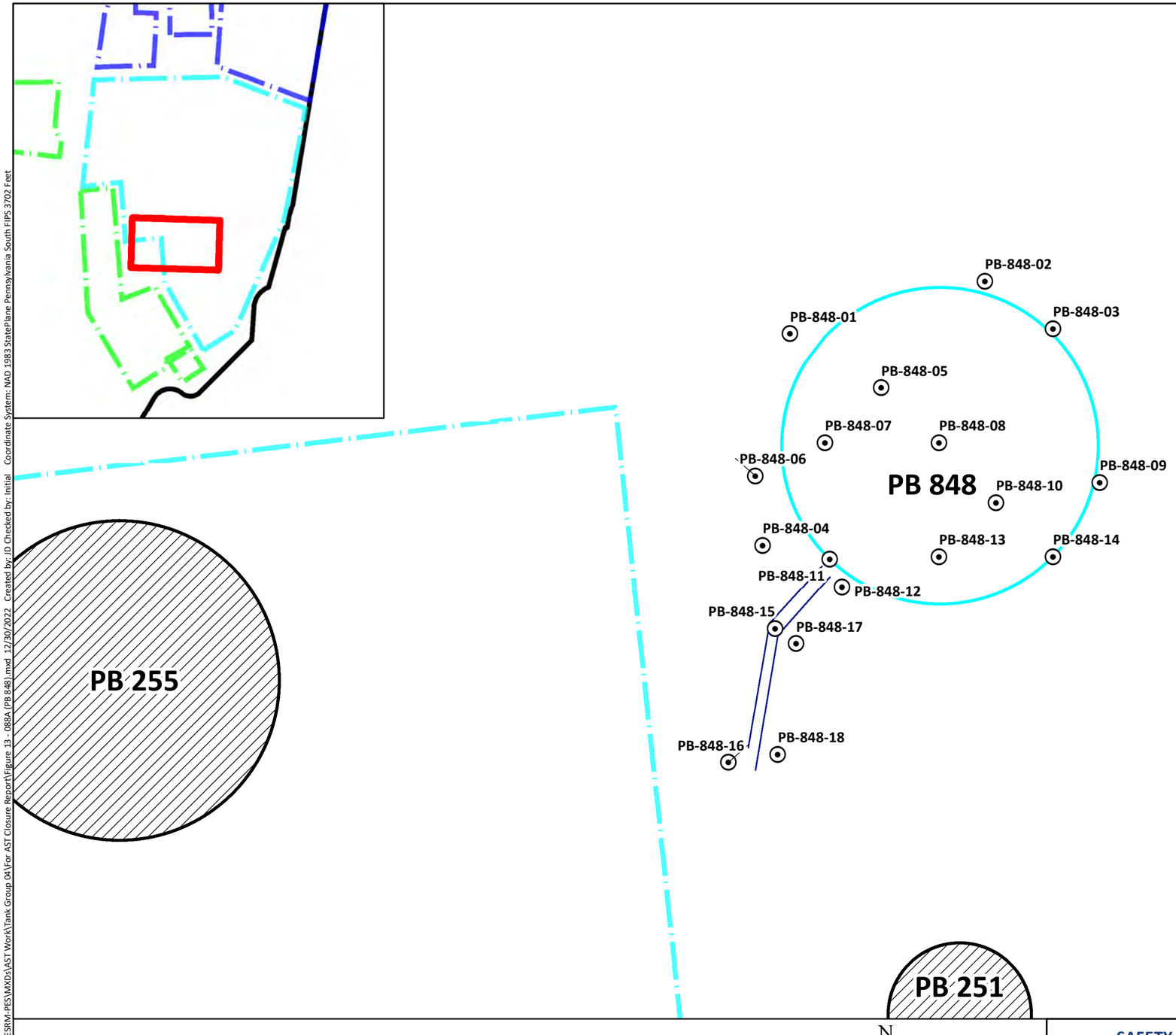
Table 13 - 088A (PB 848)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-848-10	PB-848-10-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.14	7/11/2022	7/13/2022
PB-848-10	PB-848-10-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.18	7/11/2022	7/13/2022
PB-848-10	PB-848-10-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.14	7/11/2022	7/13/2022
PB-848-10	PB-848-10-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.23	7/11/2022	7/13/2022
PB-848-10	PB-848-10-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.23	7/11/2022	7/13/2022
PB-848-10	PB-848-10-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.14	7/11/2022	7/13/2022
PB-848-10	PB-848-10-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.0012	7/11/2022	7/14/2022
PB-848-10	PB-848-10-SS01	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.14	7/11/2022	7/13/2022
PB-848-10	PB-848-10-SS01	4.5	5	Lead	SW6010D	Soil	721	5.48	7/11/2022	7/17/2022
PB-848-10	PB-848-10-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0025	7/11/2022	7/14/2022
PB-848-10	PB-848-10-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	0.0024	0.0012	7/11/2022	7/14/2022
PB-848-10	PB-848-10-SS01	4.5	5	Cumene	SW8260C	Soil	0.0066	0.0012	7/11/2022	7/14/2022
PB-848-10	PB-848-10-SS01	4.5	5	Benzene	SW8260C	Soil	0.00052	0.00063	7/11/2022	7/14/2022
PB-848-10	PB-848-10-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.00047	0.0025	7/11/2022	7/14/2022
PB-848-10	PB-848-10-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/11/2022	7/14/2022
PB-848-10	PB-848-10-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00063	7/11/2022	7/14/2022
PB-848-10	PB-848-10-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.00081	0.0025	7/11/2022	7/14/2022
PB-848-10	PB-848-10-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.0025	7/11/2022	7/14/2022
PB-848-10	PB-848-10-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.14	7/11/2022	7/13/2022
PB-848-11	PB-848-11-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.029	0.11	7/11/2022	7/13/2022
PB-848-11	PB-848-11-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/11/2022	7/13/2022
PB-848-11	PB-848-11-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.037	0.11	7/11/2022	7/13/2022
PB-848-11	PB-848-11-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.039	0.15	7/11/2022	7/13/2022
PB-848-11	PB-848-11-SS01	3	3.5	Chrysene	SW8270D	Soil	0.034	0.11	7/11/2022	7/13/2022
PB-848-11	PB-848-11-SS01	3	3.5	Fluorene	SW8270D	Soil	0.25	0.19	7/11/2022	7/13/2022
PB-848-11	PB-848-11-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/11/2022	7/13/2022
PB-848-11	PB-848-11-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.35	0.11	7/11/2022	7/13/2022
PB-848-11	PB-848-11-SS01	3	3.5	Anthracene	SW8270D	Soil	0.081	0.11	7/11/2022	7/13/2022
PB-848-11	PB-848-11-SS01	3	3.5	Pyrene	SW8270D	Soil	0.058	0.11	7/11/2022	7/13/2022
PB-848-11	PB-848-11-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.12	0.14	7/11/2022	7/14/2022
PB-848-11	PB-848-11-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.394	0.14	7/11/2022	7/14/2022
PB-848-11	PB-848-11-SS01	3	3.5	Lead	SW6010D	Soil	15	2.24	7/11/2022	7/16/2022
PB-848-11	PB-848-11-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.034	7/11/2022	7/14/2022
PB-848-11	PB-848-11-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.068	7/11/2022	7/14/2022
PB-848-11	PB-848-11-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.076	0.14	7/11/2022	7/14/2022
PB-848-11	PB-848-11-SS01	3	3.5	Benzene	SW8260C	Soil	0.87	0.034	7/11/2022	7/14/2022
PB-848-11	PB-848-11-SS01	3	3.5	Cumene	SW8260C	Soil	0.29	0.068	7/11/2022	7/14/2022
PB-848-11	PB-848-11-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	0.16	0.068	7/11/2022	7/14/2022
PB-848-11	PB-848-11-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.14	7/11/2022	7/14/2022
PB-848-11	PB-848-11-SS01	3	3.5	Toluene	SW8260C	Soil	0.12	0.068	7/11/2022	7/14/2022
PB-848-12	PB-848-12-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.0011	7/11/2022	7/15/2022
PB-848-12	PB-848-12-SS01	4	4.5	Phenanthrene	SW8270D	Soil	0.68	0.12	7/11/2022	7/13/2022
PB-848-12	PB-848-12-SS01	4	4.5	Naphthalene	SW8270D	Soil	0.043	0.21	7/11/2022	7/13/2022
PB-848-12	PB-848-12-SS01	4	4.5	Fluorene	SW8270D	Soil	0.13	0.21	7/11/2022	7/13/2022
PB-848-12	PB-848-12-SS01	4	4.5	Chrysene	SW8270D	Soil	0.3	0.12	7/11/2022	7/13/2022
PB-848-12	PB-848-12-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.11	0.16	7/11/2022	7/13/2022
PB-848-12	PB-848-12-SS01	4	4.5	Benzo(b)fluoranthene	SW8270D	Soil	0.36	0.12	7/11/2022	7/13/2022
PB-848-12	PB-848-12-SS01	4	4.5	Benzo(a)pyrene	SW8270D	Soil	0.3	0.16	7/11/2022	7/13/2022
PB-848-12	PB-848-12-SS01	4	4.5	Benzo(a)anthracene	SW8270D	Soil	0.33	0.12	7/11/2022	7/13/2022
PB-848-12	PB-848-12-SS01	4	4.5	Pyrene	SW8270D	Soil	0.51	0.12	7/11/2022	7/13/2022
PB-848-12	PB-848-12-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/11/2022	7/15/2022
PB-848-12	PB-848-12-SS01	4	4.5	Anthracene	SW8270D	Soil	0.19	0.12	7/11/2022	7/13/2022
PB-848-12	PB-848-12-SS01	4	4.5	Lead	SW6010D	Soil	282	2.36	7/11/2022	7/16/2022
PB-848-12	PB-848-12-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	7/11/2022	7/15/2022
PB-848-12	PB-848-12-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00055	7/11/2022	7/15/2022
PB-848-12	PB-848-12-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/11/2022	7/15/2022
PB-848-12	PB-848-12-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/11/2022	7/15/2022
PB-848-12	PB-848-12-SS01	4	4.5	Benzene	SW8260C	Soil	ND	0.00055	7/11/2022	7/15/2022
PB-848-12	PB-848-12-SS01	4	4.5	Cumene	SW8260C	Soil	ND	0.0011	7/11/2022	7/15/2022
PB-848-12	PB-848-12-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/11/2022	7/15/2022
PB-848-12	PB-848-12-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	7/11/2022	7/15/2022
PB-848-13	PB-848-13-SS01	4.5	5	Toluene	SW8260C	Soil	0.039	0.072	7/11/2022	7/14/2022
PB-848-13	PB-848-13-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-848-13	PB-848-13-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-848-13	PB-848-13-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-13	PB-848-13-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-13	PB-848-13-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-13	PB-848-13-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-13	PB-848-13-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-13	PB-848-13-SS01	4.5	5	Pyrene	SW8270D	Soil	0.022	0.12	7/11/2022	7/13/2022
PB-848-13	PB-848-13-SS01	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-13	PB-848-13-SS01	4.5	5	Lead	SW6010D	Soil	28.5	2.46	7/11/2022	7/16/2022
PB-848-13	PB-848-13-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.14	7/11/2022	7/14/2022
PB-848-13	PB-848-13-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	0.018	0.072	7/11/2022	7/14/2022
PB-848-13	PB-848-13-SS01	4.5	5	Cumene	SW8260C	Soil	0.01	0.072	7/11/2022	7/14/2022
PB-848-13	PB-848-13-SS01	4.5	5	Benzene	SW8260C	Soil	ND	0.036	7/11/2022	7/14/2022
PB-848-13	PB-848-13-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.14	7/11/2022	7/14/2022
PB-848-13	PB-848-13-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.072	7/11/2022	7/14/2022
PB-848-13	PB-848-13-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.036	7/11/2022	7/14/2022
PB-848-13	PB-848-13-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.14	7/11/2022	7/14/2022
PB-848-13	PB-848-13-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-13	PB-848-13-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.14	7/11/2022	7/14/2022
PB-848-14	PB-848-14-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-14	PB-848-14-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-14	PB-848-14-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-14	PB-848-14-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-14	PB-848-14-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-14	PB-848-14-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.21	7/11/2022	7/13/2022
PB-848-14	PB-848-14-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.21	7/11/2022	7/13/2022
PB-848-14	PB-848-14-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-14	PB-848-14-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.0011	7/11/2022	7/14/2022
PB-848-14	PB-848-14-SS01	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-14	PB-848-14-SS01	4.5	5	Lead	SW6010D	Soil	15.7	2.42	7/11/2022	7/16/2022
PB-848-14	PB-848-14-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0023	7/11/2022	7/14/2022
PB-848-14	PB-848-14-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	0.00017	0.0011	7/11/2022	7/14/2022
PB-848-14	PB-848-14-SS01	4.5	5	Cumene	SW8260C	Soil	0.00079	0.0011	7/11/2022	7/14/2022
PB-848-14	PB-848-14-SS01	4.5	5	Benzene	SW8260C	Soil	0.00019	0.00056	7/11/2022	7/14/2022
PB-848-14	PB-848-14-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0023	7/11/2022	7/14/2022
PB-848-14	PB-848-14-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/11/2022	7/14/2022
PB-848-14	PB-848-14-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00056	7/11/2022	7/14/2022
PB-848-14	PB-848-14-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0023	7/11/2022	7/14/2022
PB-848-14	PB-848-14-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.0023	7/11/2022	7/14/2022
PB-848-14	PB-848-14-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-15	PB-848-15-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-15	PB-848-15-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-15	PB-848-15-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022

Table 13 - 088A (PB 848)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-848-15	PB-848-15-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-15	PB-848-15-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-15	PB-848-15-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-848-15	PB-848-15-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-848-15	PB-848-15-SS01	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-15	PB-848-15-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-15	PB-848-15-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-15	PB-848-15-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	7.7	0.11	7/11/2022	7/15/2022
PB-848-15	PB-848-15-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	38.038	2.2	7/11/2022	7/15/2022
PB-848-15	PB-848-15-SS01	4.5	5	Lead	SW6010D	Soil	9.28	2.29	7/11/2022	7/16/2022
PB-848-15	PB-848-15-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.028	7/11/2022	7/15/2022
PB-848-15	PB-848-15-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.055	7/11/2022	7/15/2022
PB-848-15	PB-848-15-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	4	0.11	7/11/2022	7/15/2022
PB-848-15	PB-848-15-SS01	4.5	5	Benzene	SW8260C	Soil	1.1	0.028	7/11/2022	7/15/2022
PB-848-15	PB-848-15-SS01	4.5	5	Cumene	SW8260C	Soil	2.4	0.055	7/11/2022	7/15/2022
PB-848-15	PB-848-15-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	16	0.055	7/11/2022	7/15/2022
PB-848-15	PB-848-15-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.11	7/11/2022	7/15/2022
PB-848-15	PB-848-15-SS01	4.5	5	Toluene	SW8260C	Soil	0.078	0.055	7/11/2022	7/15/2022
PB-848-16	PB-848-16-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	7/11/2022	7/14/2022
PB-848-16	PB-848-16-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-16	PB-848-16-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-848-16	PB-848-16-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-848-16	PB-848-16-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-16	PB-848-16-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-16	PB-848-16-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-16	PB-848-16-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-16	PB-848-16-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-16	PB-848-16-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-16	PB-848-16-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/11/2022	7/14/2022
PB-848-16	PB-848-16-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-16	PB-848-16-SS01	3	3.5	Lead	SW6010D	Soil	6.41	2.32	7/11/2022	7/16/2022
PB-848-16	PB-848-16-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0024	7/11/2022	7/14/2022
PB-848-16	PB-848-16-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0006	7/11/2022	7/14/2022
PB-848-16	PB-848-16-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/11/2022	7/14/2022
PB-848-16	PB-848-16-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/11/2022	7/14/2022
PB-848-16	PB-848-16-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0006	7/11/2022	7/14/2022
PB-848-16	PB-848-16-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	7/11/2022	7/14/2022
PB-848-16	PB-848-16-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/11/2022	7/14/2022
PB-848-16	PB-848-16-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0024	7/11/2022	7/14/2022
PB-848-17	PB-848-17-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0015	7/11/2022	7/14/2022
PB-848-17	PB-848-17-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.34	0.12	7/11/2022	7/13/2022
PB-848-17	PB-848-17-SS01	3	3.5	Naphthalene	SW8270D	Soil	0.026	0.2	7/11/2022	7/13/2022
PB-848-17	PB-848-17-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-848-17	PB-848-17-SS01	3	3.5	Chrysene	SW8270D	Soil	4.4	0.12	7/11/2022	7/13/2022
PB-848-17	PB-848-17-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	5.2	0.16	7/11/2022	7/13/2022
PB-848-17	PB-848-17-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	4.4	0.12	7/11/2022	7/13/2022
PB-848-17	PB-848-17-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	7.2	0.16	7/11/2022	7/13/2022
PB-848-17	PB-848-17-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	4.5	0.12	7/11/2022	7/13/2022
PB-848-17	PB-848-17-SS01	3	3.5	Pyrene	SW8270D	Soil	0.79	0.12	7/11/2022	7/13/2022
PB-848-17	PB-848-17-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0031	7/11/2022	7/14/2022
PB-848-17	PB-848-17-SS01	3	3.5	Anthracene	SW8270D	Soil	0.09	0.12	7/11/2022	7/13/2022
PB-848-17	PB-848-17-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0031	7/11/2022	7/14/2022
PB-848-17	PB-848-17-SS01	3	3.5	Lead	SW6010D	Soil	1840	2.29	7/11/2022	7/16/2022
PB-848-17	PB-848-17-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00077	7/11/2022	7/14/2022
PB-848-17	PB-848-17-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0015	7/11/2022	7/14/2022
PB-848-17	PB-848-17-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0031	7/11/2022	7/14/2022
PB-848-17	PB-848-17-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00077	7/11/2022	7/14/2022
PB-848-17	PB-848-17-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0015	7/11/2022	7/14/2022
PB-848-17	PB-848-17-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0015	7/11/2022	7/14/2022
PB-848-17	PB-848-17-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0031	7/11/2022	7/14/2022
PB-848-18	PB-848-18-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.054	7/11/2022	7/18/2022
PB-848-18	PB-848-18-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-848-18	PB-848-18-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.2	7/11/2022	7/13/2022
PB-848-18	PB-848-18-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-18	PB-848-18-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-18	PB-848-18-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-18	PB-848-18-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/11/2022	7/13/2022
PB-848-18	PB-848-18-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-18	PB-848-18-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-18	PB-848-18-SS01	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022
PB-848-18	PB-848-18-SS01	4.5	5	Lead	SW6010D	Soil	60.7	11.4	7/11/2022	7/17/2022
PB-848-18	PB-848-18-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.11	7/11/2022	7/18/2022
PB-848-18	PB-848-18-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	0.017	0.054	7/11/2022	7/18/2022
PB-848-18	PB-848-18-SS01	4.5	5	Cumene	SW8260C	Soil	0.06	0.054	7/11/2022	7/18/2022
PB-848-18	PB-848-18-SS01	4.5	5	Benzene	SW8260C	Soil	0.01	0.027	7/11/2022	7/18/2022
PB-848-18	PB-848-18-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.011	0.11	7/11/2022	7/18/2022
PB-848-18	PB-848-18-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.054	7/11/2022	7/18/2022
PB-848-18	PB-848-18-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.027	7/11/2022	7/18/2022
PB-848-18	PB-848-18-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.058	0.11	7/11/2022	7/18/2022
PB-848-18	PB-848-18-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	0.083	0.11	7/11/2022	7/18/2022
PB-848-18	PB-848-18-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	7/11/2022	7/13/2022

Notes:
SS -- Soil Sample.
DUP-39 is a field duplicate associated with sample PB-848-05-SS01.



0 50 100 Feet

1 inch = 50 feet

N

Legend

Tank Group

- 04
- Previously Closed
- Associated Piping
- PESRM Soil Sample Location

SAFETY FIRST

terraphase engineering

CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

Site Location and Sampling Map 088A (PB 848)

Figure 13

File: N:\GIS\Pr\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For AST Closure Report\Figure 13 - 088A (PB 848).mxd 12/30/2022 Created by: JD Checked by: Initial Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

	Photograph 1: View of Tank 088A (PB 848) during demolition.
	Photograph 2: View of Tank 088A (PB 848) during demolition.

	Photograph 3: View of scrap piles and Tank 088A (PB 848) during demolition.
	Photograph 4: View of scrap piles during demolition.

	Photograph 5: View of the tank pad following demolition.
	Photograph 6: View of soil beneath the tank pad following demolition.

Product Movement and Waste Disposal Documentation (Tank 088A)

NorthStar Contracting Group, Inc.

PES Project Load Ticket

S120103

Load Ticket: 15244A

Date: 01-18-22

Scrap

Sold to: Allegheny

Location: Tarlton 848

Carrier: Allegheny

Steel / Ferrous

- ☐ No. 1 P+S
- ☐ No. 2 Heavy Melt
- ☐ Cast Iron
- ☐ Mixed
- ☐ Pipe
- ☐ Light Iron
- ☐ Re-Bar
- ☐ Other Tarn Plate

Non-Ferrous

- ☐ Insulated Copper Wire
- ☐ No. 1 Copper Wire
- ☐ Brass
- ☐ Aluminum
- ☐ Stainless, Grade_____
- ☐ Other Alloy, Grade_____
- ☐ Mixed
- ☐ Other: _____

Condition

- ☐ Prepared
- ☐ Unprepared
- ☐ Green Waste
- ☐ Concrete
- ☐ Masonry
- ☐ Mixed Masonry
- ☐ Wood Only
- ☐ Demo Debris (C&D)
- ☐ Dirt / Fill
- ☐ Sand Fill
- ☐ Crushed Stone
- ☐ Other:_____

Scale Ticket #:_____

Gross Weight: 77000 lbs

Tare Weight: 38760 lbs

Net Weight: 38240 lbs

NorthStar Rep. Signature: _____

Received By: _____

Non-Haz / ACM / Special Waste

Activity Location: _____

Waste Stream

- ☐ C&D Demolition Debris
- ☐ Non-Friable ACM
- ☐ Friable ACM
- ☐ PB WWTP Sludge
- ☐ GP WWTP Sludge
- ☐ Characteristic Haz Waste (flammable D001, corrosive D002, reactive D003, toxicity D004 –D043)
- ☐ Process Haz Waste
- ☐ Demo Debris (C&D)
- ☐ Non-Haz Waste (Solid)
- ☐ Non-Haz Waste (Liquid)
- ☐ PCB (Non-TSCA)
- ☐ PCB (TSCA)

Disposal Facility:_____

Carrier:_____

Truck #:_____

Container #:_____

Manifest #:_____

Profile / Approval #:_____

Scale Info

Scale Ticket #:_____

Gross Weight:_____

Tare weight:_____

Net weight:_____

Net Kilogram Conversion (PCB Only):_____

NorthStar Rep. Signature:_____

HILCO REDEVELOPEMENT PARTNERS
3144 W. PASSYUNK AVE

PHILADELPHIA PA, 19145

Ticket #: 20033428
Date: 01/18/2022 7:39 AM
Phone: ( ) -
Fax: ( ) -

Customer: HILCO
HILCO

Order Number: 001
SCRAP REMOVAL
Tons: 111046.576
Loads: 7202

DT261-2 - ALLEGHENY TRUCK 261 W/TRAILER 2
CARLAD - CARLA DAVILA

Remarks: SCRAP REMOVAL

Signature: _____

Material	Quantity	Price	Material $	Delivery $	Misc $	Tax $	Line Total $
SCRAP	19.12 tn						

Weight Information

Material	Gross	Tare	Net
SCRAP	77000.00	38760.00	38240.00

15244
SCALE VIEW

ABOVEGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

SECTION III. Site Assessment Information

Tank Registration # 011A (complete one sheet for EACH tank system and attach ALL laboratory sheets pertaining to that system)

Facility ID Number 51 - 33620

A. Provide depth of *BEDROCK* and *WATER* IF encountered during excavation or soil boring (write "N/A": if NOT encountered).

Bedrock N/A feet below land surface Water 15 feet below land surface

B. Provide Length of *PIPING* IF piping was closed-in-place (write "N/A" if NOT closed-in-place).

Length of piping N/A feet

C. TANK SYSTEM REMOVED FROM THE GROUND/SITE

1). Was obvious contamination observed while excavating, sampling or removing the tank system?

☒ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records ----→ Do not complete item C.2. below.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

---→ Complete item C.2. below.

2). Was contamination localized (within three feet of the tank system in every direction with no obvious water contamination)?

☐ YES ----→ Remove or remediate contaminated soil ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ NO ----→ Continue Interim Remedial Actions ----→ See end of this section for options on submission and maintenance of closure records.

D. TANK SYSTEM CLOSED-IN-PLACE OR CHANGED-IN-SERVICE

Was obvious contamination observed during sampling, boring or assessing water depths?

☐ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

Continue with corrective action ----→ See end of this section for options on submission and maintenance of closure records.

E. If the answer to C.1. is "no", the answer to C.2. is "yes" or the answer to D. is "no", confirmatory samples are required. Use the sample/analysis information sheet on page 10 of 11 to provide the information on confirmatory sampling and complete the diagram on Page 11 of 11.

Options for Submission and Maintenance of Closure Site Assessment Records

Records of the site assessment must be maintained for at least three years after completion of permanent closure or change-in-service in one of the following ways:

(a) By the owners and operators who took the tank system out of service;
(b) By the current owners and operators of the tank system site; or
(c) By mailing these records to the DEP regional office responsible for the county in which the tank is located if they cannot be maintained at the closed facility.

Where the results of the site assessment indicate that obvious, localized soil contamination was encountered and the analytical results of the confirmatory sampling show levels below the statewide standard/action levels, this closure report form (Sections I, II, and III) or some other acceptable site characterization report must be received by the Department within 180 days of verbally reporting the release.

Where the results of the site assessment indicate that no obvious contamination or obvious, localized contamination was encountered, but the analytical results of the confirmatory sampling show levels above the statewide standard/action levels, or where there is obvious, extensive contamination, Section 245.310(a)(8) of the Corrective Action Process (CAP) regulations requires that details of removal from service be included in the site characterization report. A copy of the completed closure report form should be submitted as part of the site characterization report to satisfy the requirements of Section 245.310(a)(8) of the CAP regulations.

I, Kevin Long , hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating to unsworn
(Print Name)
falsification to authorities) that I am the person who performed the site assessment activities associated with the closure of the above referenced storage tank system(s) and that the information provided by me in this closure report (Section III) is true, accurate and complete to the best of my knowledge and belief.

Kevin L. Long
Signature of Person Performing Site Assessment

2 / 1 / 2023
Date

Principal Consultant
Title of Person Performing Site Assessment

Terraphase Engineering, Inc.
Name of Company Performing Site Assessment

609-236-8171 x93
Telephone Number of Person Performing Site Assessment

ABOVEGROUND STORAGE TANK SYSTEM
CLOSURE REPORT FORM

Sample/Analysis Information
(Attachment for Section III.)

Facility ID Number 51 - 33620

Sample I.D. (See diagram)	Parameter	Analytical Method[1]		Media	Result (units)	Detection Limit (units)	Date Sample Taken	Date Sample Analyzed
See attached summary table							/ /	/ /
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[1] Where EPA Method 5035 is used, indicate sample collection option in the right-hand box of this column using the following codes:

P - Samples placed in a soil sample vial with a preservative present.
E - Samples collected and stored in a soil collection device which is airtight and affords little to no headspace.

N - Samples placed in soil sample vial without a preservative present.

Site Location and Sampling Map - Use this page or suitable facsimile to provide a large-scale map of the site where storage tank systems were closed. Scales between 1" = 10 and 1" = 100 feet frequently work well. Include the following information as each applies to the site: facility name and I.D., county, township or borough, property boundaries or area of interest, buildings, roads and streets with names or route numbers, utilities, location and ID number of storage tank systems removed including piping and dispensers, soil stockpile locations, excavations or other locations of product recovery, north arrow, approximate map scale and legend. Also, show depth and location of samples with sample ID numbers cross-referenced to the same ID numbers shown on Page 10 of 11.

Facility Name and ID: -

County:

Township/Borough: See attached Figure

Table 1 - 011A (PB 881)

Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-881-01	PB-881-01-SS01	3	3.5	Pyrene	SW8270D	Soil	0.15	0.52	7/12/2022	7/19/2022
PB-881-01	PB-881-01-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.52	7/12/2022	7/19/2022
PB-881-01	PB-881-01-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.7	7/12/2022	7/19/2022
PB-881-01	PB-881-01-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.52	7/12/2022	7/19/2022
PB-881-01	PB-881-01-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.7	7/12/2022	7/19/2022
PB-881-01	PB-881-01-SS01	3	3.5	Chrysene	SW8270D	Soil	0.22	0.52	7/12/2022	7/19/2022
PB-881-01	PB-881-01-SS01	3	3.5	Fluorene	SW8270D	Soil	0.19	0.88	7/12/2022	7/19/2022
PB-881-01	PB-881-01-SS01	3	3.5	Naphthalene	SW8270D	Soil	0.26	0.88	7/12/2022	7/19/2022
PB-881-01	PB-881-01-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00087	7/12/2022	7/19/2022
PB-881-01	PB-881-01-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.16	0.52	7/12/2022	7/19/2022
PB-881-01	PB-881-01-SS01	3	3.5	Lead	SW6010D	Soil	1.62	2	7/12/2022	7/18/2022
PB-881-01	PB-881-01-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.055	0.0017	7/12/2022	7/19/2022
PB-881-01	PB-881-01-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.52	7/12/2022	7/19/2022
PB-881-01	PB-881-01-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.13	7/12/2022	7/18/2022
PB-881-01	PB-881-01-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00043	7/12/2022	7/19/2022
PB-881-01	PB-881-01-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00087	7/12/2022	7/19/2022
PB-881-01	PB-881-01-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.091	0.0017	7/12/2022	7/19/2022
PB-881-01	PB-881-01-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00043	7/12/2022	7/19/2022
PB-881-01	PB-881-01-SS01	3	3.5	Cumene	SW8260C	Soil	0.0032	0.00087	7/12/2022	7/19/2022
PB-881-01	PB-881-01-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00087	7/12/2022	7/19/2022
PB-881-01	PB-881-01-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0017	7/12/2022	7/19/2022
PB-881-02	PB-881-02-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/12/2022	7/15/2022
PB-881-02	PB-881-02-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-02	PB-881-02-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-881-02	PB-881-02-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-881-02	PB-881-02-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-02	PB-881-02-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-02	PB-881-02-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-02	PB-881-02-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-02	PB-881-02-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-02	PB-881-02-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-02	PB-881-02-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/12/2022	7/15/2022
PB-881-02	PB-881-02-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-02	PB-881-02-SS01	3	3.5	Lead	SW6010D	Soil	1.49	2.04	7/12/2022	7/18/2022
PB-881-02	PB-881-02-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0021	7/12/2022	7/15/2022
PB-881-02	PB-881-02-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00053	7/12/2022	7/15/2022
PB-881-02	PB-881-02-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/12/2022	7/15/2022
PB-881-02	PB-881-02-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/12/2022	7/15/2022
PB-881-02	PB-881-02-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00053	7/12/2022	7/15/2022
PB-881-02	PB-881-02-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	7/12/2022	7/15/2022
PB-881-02	PB-881-02-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/12/2022	7/15/2022
PB-881-02	PB-881-02-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0021	7/12/2022	7/15/2022
PB-881-03	PB-881-03-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00093	7/12/2022	7/15/2022
PB-881-03	PB-881-03-SS01	3	3.5	Naphthalene	SW8270D	Soil	1.2	0.17	7/12/2022	7/14/2022
PB-881-03	PB-881-03-SS01	3	3.5	Fluorene	SW8270D	Soil	0.51	0.17	7/12/2022	7/14/2022
PB-881-03	PB-881-03-SS01	3	3.5	Chrysene	SW8270D	Soil	0.2	0.1	7/12/2022	7/14/2022
PB-881-03	PB-881-03-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-03	PB-881-03-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-03	PB-881-03-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-03	PB-881-03-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.04	0.1	7/12/2022	7/14/2022
PB-881-03	PB-881-03-SS01	3	3.5	Pyrene	SW8270D	Soil	0.15	0.1	7/12/2022	7/14/2022
PB-881-03	PB-881-03-SS01	3	3.5	Phenanthrene	SW8270D	Soil	1	0.1	7/12/2022	7/14/2022
PB-881-03	PB-881-03-SS01	3	3.5	Lead	SW6010D	Soil	1.78	4.15	7/12/2022	7/18/2022
PB-881-03	PB-881-03-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0019	7/12/2022	7/15/2022
PB-881-03	PB-881-03-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00093	7/12/2022	7/15/2022
PB-881-03	PB-881-03-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00093	7/12/2022	7/15/2022
PB-881-03	PB-881-03-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00046	7/12/2022	7/15/2022
PB-881-03	PB-881-03-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/12/2022	7/15/2022
PB-881-03	PB-881-03-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00093	7/12/2022	7/15/2022
PB-881-03	PB-881-03-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00046	7/12/2022	7/15/2022
PB-881-03	PB-881-03-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/12/2022	7/15/2022
PB-881-03	PB-881-03-SS01	3	3.5	Anthracene	SW8270D	Soil	0.097	0.1	7/12/2022	7/14/2022
PB-881-03	PB-881-03-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0019	7/12/2022	7/15/2022
PB-881-04	PB-881-04-SS01	2.5	3	Benzo(a)anthracene	SW8270D	Soil	0.23	0.11	7/12/2022	7/14/2022
PB-881-04	PB-881-04-SS01	2.5	3	Benzo(a)pyrene	SW8270D	Soil	0.25	0.15	7/12/2022	7/14/2022
PB-881-04	PB-881-04-SS01	2.5	3	Benzo(b)fluoranthene	SW8270D	Soil	0.29	0.11	7/12/2022	7/14/2022
PB-881-04	PB-881-04-SS01	2.5	3	Benzo(g,h,i)perylene	SW8270D	Soil	0.14	0.15	7/12/2022	7/14/2022
PB-881-04	PB-881-04-SS01	2.5	3	Chrysene	SW8270D	Soil	0.22	0.11	7/12/2022	7/14/2022
PB-881-04	PB-881-04-SS01	2.5	3	Fluorene	SW8270D	Soil	0.018	0.19	7/12/2022	7/14/2022
PB-881-04	PB-881-04-SS01	2.5	3	Naphthalene	SW8270D	Soil	0.048	0.19	7/12/2022	7/14/2022
PB-881-04	PB-881-04-SS01	2.5	3	Pyrene	SW8270D	Soil	0.28	0.11	7/12/2022	7/14/2022
PB-881-04	PB-881-04-SS01	2.5	3	Toluene	SW8260C	Soil	ND	0.001	7/12/2022	7/15/2022
PB-881-04	PB-881-04-SS01	2.5	3	Phenanthrene	SW8270D	Soil	0.21	0.11	7/12/2022	7/14/2022
PB-881-04	PB-881-04-SS01	2.5	3	1,2-Dibromoethane	SW8260C	Soil	ND	0.00051	7/12/2022	7/15/2022
PB-881-04	PB-881-04-SS01	2.5	3	Anthracene	SW8270D	Soil	0.047	0.11	7/12/2022	7/14/2022
PB-881-04	PB-881-04-SS01	2.5	3	Xylenes (total)	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-04	PB-881-04-SS01	2.5	3	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-04	PB-881-04-SS01	2.5	3	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/12/2022	7/15/2022
PB-881-04	PB-881-04-SS01	2.5	3	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-04	PB-881-04-SS01	2.5	3	Benzene	SW8260C	Soil	ND	0.00051	7/12/2022	7/15/2022
PB-881-04	PB-881-04-SS01	2.5	3	Cumene	SW8260C	Soil	ND	0.001	7/12/2022	7/15/2022
PB-881-04	PB-881-04-SS01	2.5	3	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/12/2022	7/15/2022
PB-881-04	PB-881-04-SS01	2.5	3	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-04	PB-881-04-SS01	2.5	3	Lead	SW6010D	Soil	89.2	22.8	7/12/2022	7/18/2022
PB-881-05	PB-881-05-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/12/2022	7/14/2022
PB-881-05	PB-881-05-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/12/2022	7/14/2022
PB-881-05	PB-881-05-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/12/2022	7/14/2022
PB-881-05	PB-881-05-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/12/2022	7/14/2022
PB-881-05	PB-881-05-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/12/2022	7/14/2022
PB-881-05	PB-881-05-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/12/2022	7/14/2022
PB-881-05	PB-881-05-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/12/2022	7/14/2022
PB-881-05	PB-881-05-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/12/2022	7/14/2022
PB-881-05	PB-881-05-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/12/2022	7/14/2022
PB-881-05	PB-881-05-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/12/2022	7/14/2022
PB-881-05	PB-881-05-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-05	PB-881-05-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-05	PB-881-05-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00098	7/12/2022	7/15/2022
PB-881-05	PB-881-05-SS01	3	3.5	Lead	SW6010D	Soil	7.7	2.2	7/12/2022	7/18/2022
PB-881-05	PB-881-05-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00049	7/12/2022	7/15/2022
PB-881-05	PB-881-05-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-05	PB-881-05-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00049	7/12/2022	7/15/2022
PB-881-05	PB-881-05-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00098	7/12/2022	7/15/2022
PB-881-05	PB-881-05-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00098	7/12/2022	7/15/2022
PB-881-05	PB-881-05-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.0012	0.002	7/12/2022	7/15/2022

Table 1 - 011A (PB 881)

Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-881-05	PB-881-05-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00098	7/12/2022	7/15/2022
PB-881-06	PB-881-06-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/12/2022	7/15/2022
PB-881-06	PB-881-06-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-06	PB-881-06-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-06	PB-881-06-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-881-06	PB-881-06-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-881-06	PB-881-06-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-06	PB-881-06-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-06	PB-881-06-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-06	PB-881-06-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-06	PB-881-06-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-06	PB-881-06-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00056	7/12/2022	7/15/2022
PB-881-06	PB-881-06-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-06	PB-881-06-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/12/2022	7/15/2022
PB-881-06	PB-881-06-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	7/12/2022	7/15/2022
PB-881-06	PB-881-06-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/12/2022	7/15/2022
PB-881-06	PB-881-06-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/12/2022	7/15/2022
PB-881-06	PB-881-06-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00056	7/12/2022	7/15/2022
PB-881-06	PB-881-06-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	7/12/2022	7/15/2022
PB-881-06	PB-881-06-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/12/2022	7/15/2022
PB-881-06	PB-881-06-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	7/12/2022	7/15/2022
PB-881-06	PB-881-06-SS01	3	3.5	Lead	SW6010D	Soil	1.45	2.02	7/12/2022	7/18/2022
PB-881-07	DUP-41	3	3.5	Toluene	SW8260C	Soil	ND	0.065	7/12/2022	7/15/2022
PB-881-07	DUP-41	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.031	0.11	7/12/2022	7/14/2022
PB-881-07	DUP-41	3	3.5	Pyrene	SW8270D	Soil	0.1	0.11	7/12/2022	7/14/2022
PB-881-07	DUP-41	3	3.5	Phenanthrene	SW8270D	Soil	0.88	0.11	7/12/2022	7/14/2022
PB-881-07	DUP-41	3	3.5	Naphthalene	SW8270D	Soil	0.6	0.18	7/12/2022	7/14/2022
PB-881-07	DUP-41	3	3.5	Fluorene	SW8270D	Soil	0.41	0.18	7/12/2022	7/14/2022
PB-881-07	DUP-41	3	3.5	Chrysene	SW8270D	Soil	0.15	0.11	7/12/2022	7/14/2022
PB-881-07	DUP-41	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-07	DUP-41	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/12/2022	7/14/2022
PB-881-07	DUP-41	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-07	DUP-41	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.032	7/12/2022	7/15/2022
PB-881-07	DUP-41	3	3.5	Anthracene	SW8270D	Soil	0.063	0.11	7/12/2022	7/14/2022
PB-881-07	DUP-41	3	3.5	Xylenes (total)	SW8260C	Soil	0.0695	0.13	7/12/2022	7/15/2022
PB-881-07	DUP-41	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	1	0.13	7/12/2022	7/15/2022
PB-881-07	DUP-41	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.065	7/12/2022	7/15/2022
PB-881-07	DUP-41	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.45	0.13	7/12/2022	7/15/2022
PB-881-07	DUP-41	3	3.5	Benzene	SW8260C	Soil	ND	0.032	7/12/2022	7/15/2022
PB-881-07	DUP-41	3	3.5	Cumene	SW8260C	Soil	0.012	0.065	7/12/2022	7/15/2022
PB-881-07	DUP-41	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.065	7/12/2022	7/15/2022
PB-881-07	DUP-41	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.13	7/12/2022	7/15/2022
PB-881-07	DUP-41	3	3.5	Lead	SW6010D	Soil	1.48	2.05	7/12/2022	7/18/2022
PB-881-07	PB-881-07-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.042	7/12/2022	7/18/2022
PB-881-07	PB-881-07-SS01	3	3.5	Pyrene	SW8270D	Soil	0.064	0.1	7/12/2022	7/14/2022
PB-881-07	PB-881-07-SS01	3	3.5	Naphthalene	SW8270D	Soil	0.048	0.17	7/12/2022	7/14/2022
PB-881-07	PB-881-07-SS01	3	3.5	Fluorene	SW8270D	Soil	0.23	0.17	7/12/2022	7/14/2022
PB-881-07	PB-881-07-SS01	3	3.5	Chrysene	SW8270D	Soil	0.087	0.1	7/12/2022	7/14/2022
PB-881-07	PB-881-07-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-07	PB-881-07-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-07	PB-881-07-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-07	PB-881-07-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.022	0.1	7/12/2022	7/14/2022
PB-881-07	PB-881-07-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.48	0.1	7/12/2022	7/14/2022
PB-881-07	PB-881-07-SS01	3	3.5	Lead	SW6010D	Soil	1.48	1.98	7/12/2022	7/18/2022
PB-881-07	PB-881-07-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.084	7/12/2022	7/18/2022
PB-881-07	PB-881-07-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.042	7/12/2022	7/18/2022
PB-881-07	PB-881-07-SS01	3	3.5	Cumene	SW8260C	Soil	0.0089	0.042	7/12/2022	7/18/2022
PB-881-07	PB-881-07-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.021	7/12/2022	7/18/2022
PB-881-07	PB-881-07-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.22	0.084	7/12/2022	7/18/2022
PB-881-07	PB-881-07-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.042	7/12/2022	7/18/2022
PB-881-07	PB-881-07-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.021	7/12/2022	7/18/2022
PB-881-07	PB-881-07-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.47	0.084	7/12/2022	7/18/2022
PB-881-07	PB-881-07-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.059	0.084	7/12/2022	7/18/2022
PB-881-07	PB-881-07-SS01	3	3.5	Anthracene	SW8270D	Soil	0.04	0.1	7/12/2022	7/14/2022
PB-881-08	PB-881-08-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/12/2022	7/14/2022
PB-881-08	PB-881-08-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-08	PB-881-08-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/12/2022	7/14/2022
PB-881-08	PB-881-08-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-08	PB-881-08-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.2	7/12/2022	7/14/2022
PB-881-08	PB-881-08-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.2	7/12/2022	7/14/2022
PB-881-08	PB-881-08-SS01	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-08	PB-881-08-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-08	PB-881-08-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-881-08	PB-881-08-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-08	PB-881-08-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00058	7/12/2022	7/15/2022
PB-881-08	PB-881-08-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.0023	7/12/2022	7/15/2022
PB-881-08	PB-881-08-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0023	7/12/2022	7/15/2022
PB-881-08	PB-881-08-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-881-08	PB-881-08-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0023	7/12/2022	7/15/2022
PB-881-08	PB-881-08-SS01	4.5	5	Benzene	SW8260C	Soil	ND	0.00058	7/12/2022	7/15/2022
PB-881-08	PB-881-08-SS01	4.5	5	Cumene	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-881-08	PB-881-08-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-881-08	PB-881-08-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0023	7/12/2022	7/15/2022
PB-881-08	PB-881-08-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-08	PB-881-08-SS01	4.5	5	Lead	SW6010D	Soil	6.67	2.43	7/12/2022	7/18/2022
PB-881-09	PB-881-09-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-881-09	PB-881-09-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-09	PB-881-09-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	7/12/2022	7/14/2022
PB-881-09	PB-881-09-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/12/2022	7/14/2022
PB-881-09	PB-881-09-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-09	PB-881-09-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/12/2022	7/14/2022
PB-881-09	PB-881-09-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-09	PB-881-09-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/12/2022	7/14/2022
PB-881-09	PB-881-09-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-09	PB-881-09-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-09	PB-881-09-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0023	7/12/2022	7/15/2022
PB-881-09	PB-881-09-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-09	PB-881-09-SS01	3	3.5	Lead	SW6010D	Soil	6.12	2.29	7/12/2022	7/18/2022
PB-881-09	PB-881-09-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0023	7/12/2022	7/15/2022
PB-881-09	PB-881-09-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00058	7/12/2022	7/15/2022
PB-881-09	PB-881-09-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-881-09	PB-881-09-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0023	7/12/2022	7/15/2022
PB-881-09	PB-881-09-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00058	7/12/2022	7/15/2022
PB-881-09	PB-881-09-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022

Table 1 - 011A (PB 881)

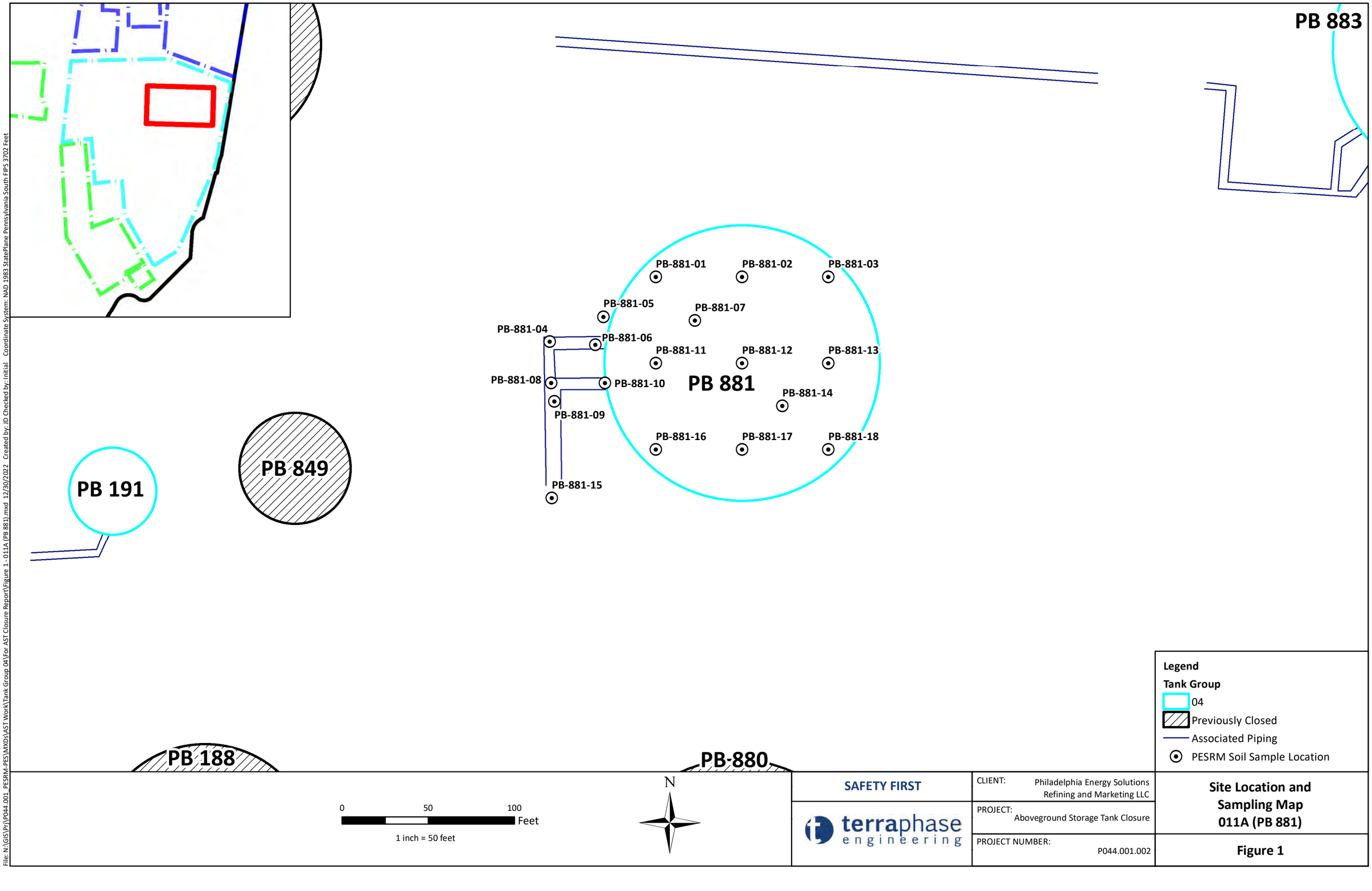
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-881-09	PB-881-09-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/12/2022	7/15/2022
PB-881-09	PB-881-09-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0023	7/12/2022	7/15/2022
PB-881-10	PB-881-10-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.1	7/12/2022	7/15/2022
PB-881-10	PB-881-10-SS01	3	3.5	Naphthalene	SW8270D	Soil	4.4	0.86	7/12/2022	7/19/2022
PB-881-10	PB-881-10-SS01	3	3.5	Fluorene	SW8270D	Soil	1.1	0.86	7/12/2022	7/19/2022
PB-881-10	PB-881-10-SS01	3	3.5	Chrysene	SW8270D	Soil	0.34	0.51	7/12/2022	7/19/2022
PB-881-10	PB-881-10-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.69	7/12/2022	7/19/2022
PB-881-10	PB-881-10-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.51	7/12/2022	7/19/2022
PB-881-10	PB-881-10-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.69	7/12/2022	7/19/2022
PB-881-10	PB-881-10-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.17	0.51	7/12/2022	7/19/2022
PB-881-10	PB-881-10-SS01	3	3.5	Pyrene	SW8270D	Soil	0.23	0.51	7/12/2022	7/19/2022
PB-881-10	PB-881-10-SS01	3	3.5	Phenanthrene	SW8270D	Soil	1.9	0.51	7/12/2022	7/19/2022
PB-881-10	PB-881-10-SS01	3	3.5	Lead	SW6010D	Soil	1.22	2.04	7/12/2022	7/18/2022
PB-881-10	PB-881-10-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.21	7/12/2022	7/15/2022
PB-881-10	PB-881-10-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	0.067	0.1	7/12/2022	7/15/2022
PB-881-10	PB-881-10-SS01	3	3.5	Cumene	SW8260C	Soil	0.26	0.1	7/12/2022	7/15/2022
PB-881-10	PB-881-10-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.052	7/12/2022	7/15/2022
PB-881-10	PB-881-10-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	3.6	0.21	7/12/2022	7/15/2022
PB-881-10	PB-881-10-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.1	7/12/2022	7/15/2022
PB-881-10	PB-881-10-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.052	7/12/2022	7/15/2022
PB-881-10	PB-881-10-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	9.4	0.21	7/12/2022	7/15/2022
PB-881-10	PB-881-10-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.51	7/12/2022	7/19/2022
PB-881-10	PB-881-10-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.456	0.21	7/12/2022	7/15/2022
PB-881-11	PB-881-11-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-11	PB-881-11-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-11	PB-881-11-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-11	PB-881-11-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-11	PB-881-11-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-11	PB-881-11-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-881-11	PB-881-11-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-881-11	PB-881-11-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-11	PB-881-11-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/12/2022	7/15/2022
PB-881-11	PB-881-11-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-11	PB-881-11-SS01	3	3.5	Lead	SW6010D	Soil	2.35	4.14	7/12/2022	7/18/2022
PB-881-11	PB-881-11-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0021	7/12/2022	7/15/2022
PB-881-11	PB-881-11-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/12/2022	7/15/2022
PB-881-11	PB-881-11-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	7/12/2022	7/15/2022
PB-881-11	PB-881-11-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00053	7/12/2022	7/15/2022
PB-881-11	PB-881-11-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/12/2022	7/15/2022
PB-881-11	PB-881-11-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/12/2022	7/15/2022
PB-881-11	PB-881-11-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00053	7/12/2022	7/15/2022
PB-881-11	PB-881-11-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/12/2022	7/15/2022
PB-881-11	PB-881-11-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0021	7/12/2022	7/15/2022
PB-881-11	PB-881-11-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-12	PB-881-12-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-12	PB-881-12-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-12	PB-881-12-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-12	PB-881-12-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-12	PB-881-12-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-12	PB-881-12-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-12	PB-881-12-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-881-12	PB-881-12-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-881-12	PB-881-12-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-12	PB-881-12-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-12	PB-881-12-SS01	3	3.5	Lead	SW6010D	Soil	1.4	2.06	7/12/2022	7/18/2022
PB-881-12	PB-881-12-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/12/2022	7/15/2022
PB-881-12	PB-881-12-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-12	PB-881-12-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00051	7/12/2022	7/15/2022
PB-881-12	PB-881-12-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/12/2022	7/15/2022
PB-881-12	PB-881-12-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00051	7/12/2022	7/15/2022
PB-881-12	PB-881-12-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	7/12/2022	7/15/2022
PB-881-12	PB-881-12-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/12/2022	7/15/2022
PB-881-12	PB-881-12-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-12	PB-881-12-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-12	PB-881-12-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-13	PB-881-13-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-13	PB-881-13-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-13	PB-881-13-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-13	PB-881-13-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-13	PB-881-13-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-13	PB-881-13-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-881-13	PB-881-13-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-13	PB-881-13-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-13	PB-881-13-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00099	7/12/2022	7/15/2022
PB-881-13	PB-881-13-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-881-13	PB-881-13-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00049	7/12/2022	7/15/2022
PB-881-13	PB-881-13-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-13	PB-881-13-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-13	PB-881-13-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-13	PB-881-13-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00099	7/12/2022	7/15/2022
PB-881-13	PB-881-13-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-13	PB-881-13-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00049	7/12/2022	7/15/2022
PB-881-13	PB-881-13-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00099	7/12/2022	7/15/2022
PB-881-13	PB-881-13-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00099	7/12/2022	7/15/2022
PB-881-13	PB-881-13-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-13	PB-881-13-SS01	3	3.5	Lead	SW6010D	Soil	2.2	4.2	7/12/2022	7/18/2022
PB-881-14	PB-881-14-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0009	7/12/2022	7/15/2022
PB-881-14	PB-881-14-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-14	PB-881-14-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-14	PB-881-14-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-14	PB-881-14-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-881-14	PB-881-14-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-881-14	PB-881-14-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-14	PB-881-14-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-14	PB-881-14-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-14	PB-881-14-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-14	PB-881-14-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00045	7/12/2022	7/15/2022
PB-881-14	PB-881-14-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-14	PB-881-14-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/12/2022	7/15/2022
PB-881-14	PB-881-14-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/12/2022	7/15/2022
PB-881-14	PB-881-14-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0009	7/12/2022	7/15/2022
PB-881-14	PB-881-14-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/12/2022	7/15/2022
PB-881-14	PB-881-14-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00045	7/12/2022	7/15/2022
PB-881-14	PB-881-14-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0009	7/12/2022	7/15/2022

Table 1 - 011A (PB 881)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-881-14	PB-881-14-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0009	7/12/2022	7/15/2022
PB-881-14	PB-881-14-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/12/2022	7/15/2022
PB-881-14	PB-881-14-SS01	3	3.5	Lead	SW6010D	Soil	2.02	3.98	7/12/2022	7/18/2022
PB-881-15	PB-881-15-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.00096	7/12/2022	7/15/2022
PB-881-15	PB-881-15-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-15	PB-881-15-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.2	7/12/2022	7/14/2022
PB-881-15	PB-881-15-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.2	7/12/2022	7/14/2022
PB-881-15	PB-881-15-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-15	PB-881-15-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/12/2022	7/14/2022
PB-881-15	PB-881-15-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-15	PB-881-15-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/12/2022	7/14/2022
PB-881-15	PB-881-15-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-15	PB-881-15-SS01	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-15	PB-881-15-SS01	4.5	5	Lead	SW6010D	Soil	5.85	2.36	7/12/2022	7/18/2022
PB-881-15	PB-881-15-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	0.00054	0.0019	7/12/2022	7/15/2022
PB-881-15	PB-881-15-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	ND	0.00096	7/12/2022	7/15/2022
PB-881-15	PB-881-15-SS01	4.5	5	Cumene	SW8260C	Soil	ND	0.00096	7/12/2022	7/15/2022
PB-881-15	PB-881-15-SS01	4.5	5	Benzene	SW8260C	Soil	ND	0.00048	7/12/2022	7/15/2022
PB-881-15	PB-881-15-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/12/2022	7/15/2022
PB-881-15	PB-881-15-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00096	7/12/2022	7/15/2022
PB-881-15	PB-881-15-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00048	7/12/2022	7/15/2022
PB-881-15	PB-881-15-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/12/2022	7/15/2022
PB-881-15	PB-881-15-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.0019	7/12/2022	7/15/2022
PB-881-15	PB-881-15-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-16	PB-881-16-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-16	PB-881-16-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-16	PB-881-16-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-16	PB-881-16-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-16	PB-881-16-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/12/2022	7/14/2022
PB-881-16	PB-881-16-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-16	PB-881-16-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/12/2022	7/14/2022
PB-881-16	PB-881-16-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	7/12/2022	7/14/2022
PB-881-16	PB-881-16-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-16	PB-881-16-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/12/2022	7/14/2022
PB-881-16	PB-881-16-SS01	3	3.5	Lead	SW6010D	Soil	10.7	4.8	7/12/2022	7/18/2022
PB-881-16	PB-881-16-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/12/2022	7/15/2022
PB-881-16	PB-881-16-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-16	PB-881-16-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00051	7/12/2022	7/15/2022
PB-881-16	PB-881-16-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/12/2022	7/15/2022
PB-881-16	PB-881-16-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00051	7/12/2022	7/15/2022
PB-881-16	PB-881-16-SS01	3	3.5	Cumene	SW8260C	Soil	0.00017	0.001	7/12/2022	7/15/2022
PB-881-16	PB-881-16-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/12/2022	7/15/2022
PB-881-16	PB-881-16-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-16	PB-881-16-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-16	PB-881-16-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/12/2022	7/14/2022
PB-881-17	PB-881-17-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-17	PB-881-17-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-17	PB-881-17-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-17	PB-881-17-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-17	PB-881-17-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-17	PB-881-17-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/12/2022	7/14/2022
PB-881-17	PB-881-17-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-17	PB-881-17-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-17	PB-881-17-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/12/2022	7/15/2022
PB-881-17	PB-881-17-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/12/2022	7/14/2022
PB-881-17	PB-881-17-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0005	7/12/2022	7/15/2022
PB-881-17	PB-881-17-SS01	3	3.5	Lead	SW6010D	Soil	1.4	2.05	7/12/2022	7/18/2022
PB-881-17	PB-881-17-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-17	PB-881-17-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-17	PB-881-17-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-17	PB-881-17-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/12/2022	7/15/2022
PB-881-17	PB-881-17-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-17	PB-881-17-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0005	7/12/2022	7/15/2022
PB-881-17	PB-881-17-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	7/12/2022	7/15/2022
PB-881-17	PB-881-17-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/12/2022	7/15/2022
PB-881-17	PB-881-17-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-18	PB-881-18-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-18	PB-881-18-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-881-18	PB-881-18-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/12/2022	7/14/2022
PB-881-18	PB-881-18-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-18	PB-881-18-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022
PB-881-18	PB-881-18-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-18	PB-881-18-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-18	PB-881-18-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-18	PB-881-18-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-18	PB-881-18-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/12/2022	7/14/2022
PB-881-18	PB-881-18-SS01	3	3.5	Lead	SW6010D	Soil	1.46	2.05	7/12/2022	7/18/2022
PB-881-18	PB-881-18-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-18	PB-881-18-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00098	7/12/2022	7/15/2022
PB-881-18	PB-881-18-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00098	7/12/2022	7/15/2022
PB-881-18	PB-881-18-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00049	7/12/2022	7/15/2022
PB-881-18	PB-881-18-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-18	PB-881-18-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00098	7/12/2022	7/15/2022
PB-881-18	PB-881-18-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00049	7/12/2022	7/15/2022
PB-881-18	PB-881-18-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/12/2022	7/15/2022
PB-881-18	PB-881-18-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00098	7/12/2022	7/15/2022
PB-881-18	PB-881-18-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/12/2022	7/14/2022

Notes:
SS -- Soil Sample.
DUP-41 is a field duplicate associated with sample PB-881-07-SS01.



SAFETY FIRST

terraphase engineering

CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

Site Location and Sampling Map 011A (PB 881)

Figure 1

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For AST Closure Report\Figure 1 - 011A (PB 881).mxd 12/30/2022 Created by: JD Checked by: Initial Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

Photograph 1:

View of Tank 011A (PB 881) during demolition.

Photograph 2:

View of Tank 011A (PB 881) during demolition.

	Photograph 3: View of scrap piles during demolition.
	Photograph 4: View of scrap piles and the concrete pad during demolition.

Photograph 5:

View of the concrete pad following demolition.

Product Movement and Waste Disposal Documentation (Tank 011A)

0959.

NorthStar Contracting Group, Inc.

PES Project Load Ticket

Load Ticket: 15020A

Date: 1-10-22

Sold to: Allegheny Scrap
Location: Tank 881
Carrier: Allegheny

Steel / Ferrous

- ☐ No. 1 P+S
- ☐ No. 2 Heavy Melt
- ☐ Cast Iron
- ☐ Mixed
- ☐ Pipe
- ☐ Light Iron
- ☐ Re-Bar
- ☐ Other Tank Plate

Non-Ferrous

- ☐ Insulated Copper Wire
- ☐ No. 1 Copper Wire
- ☐ Brass
- ☐ Aluminum
- ☐ Stainless, Grade
- ☐ Other Alloy, Grade
- ☐ Mixed
- ☐ Other:

Condition

- ☐ Prepared
- ☐ Unprepared
- ☐ Green Waste
- ☐ Concrete
- ☐ Masonry
- ☐ Mixed Masonry
- ☐ Wood Only
- ☐ Demo Debris (C&D)
- ☐ Dirt / Fill
- ☐ Sand Fill
- ☐ Crushed Stone
- ☐ Other:

Scale Ticket #:
Gross Weight: Tare 74600 lbs
Tare Weight: 38500 lbs
Net Weight: 36100 lbs.
NorthStar Rep. Signature:
Received By:

Non-Haz / ACM / Special Waste

Activity Location:

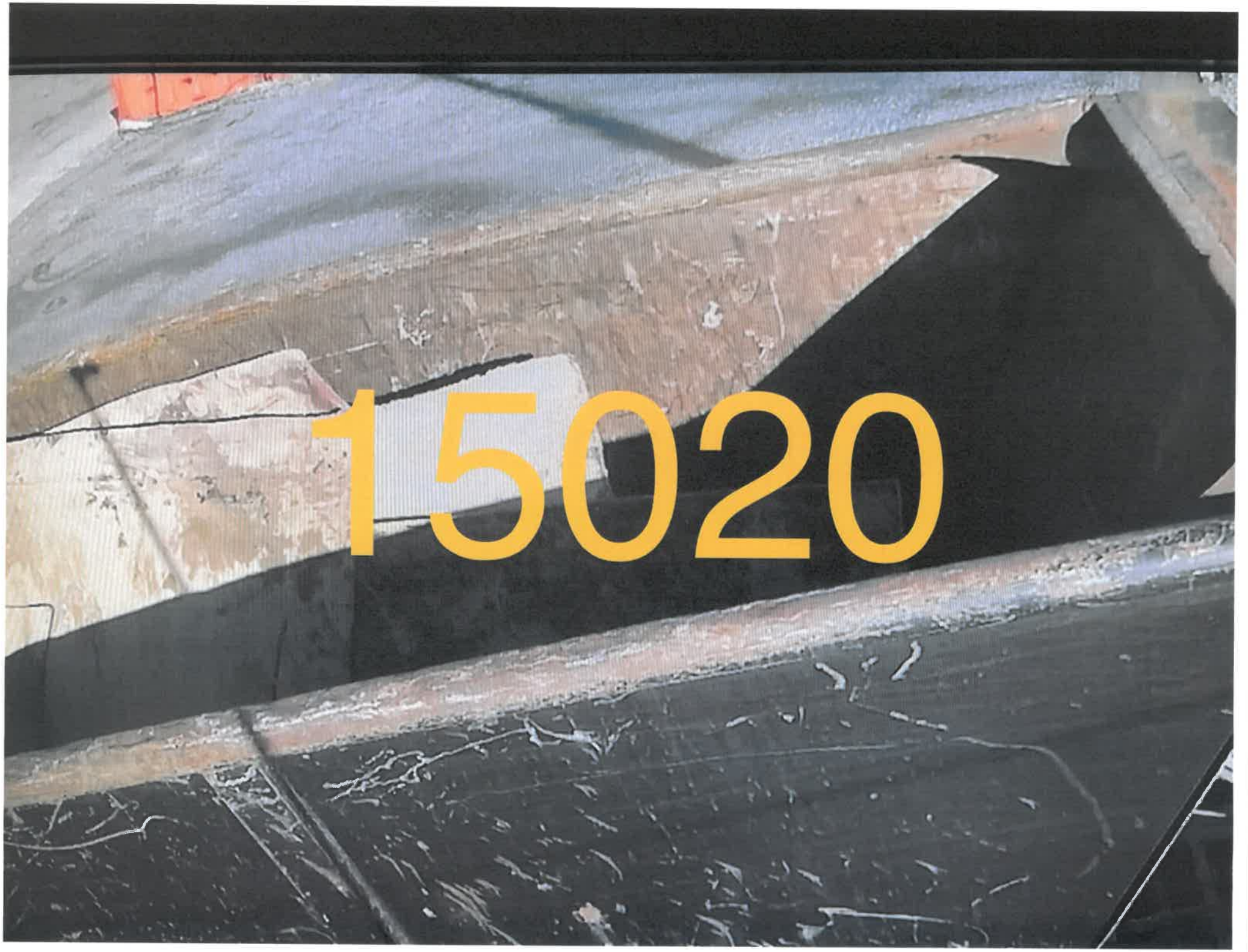
Waste Stream

- ☐ C&D Demolition Debris
- ☐ Non-Friable ACM
- ☐ Friable ACM
- ☐ PB WWTP Sludge
- ☐ GP WWTP Sludge
- ☐ Characteristic Haz Waste (flammable D001, corrosive D002, reactive D003, toxicity D004 –D043)
- ☐ Process Haz Waste
- ☐ Demo Debris (C&D)
- ☐ Non-Haz Waste (Solid)
- ☐ Non-Haz Waste (Liquid)
- ☐ PCB (Non-TSCA)
- ☐ PCB (TSCA)

Disposal Facility:
Carrier:
Truck #: 07
Container #: 103.
Manifest #:
Profile / Approval #:

Scale Info

Scale Ticket #:
Gross Weight:
Tare weight:
Net weight:
Net Kilogram Conversion (PCB Only):
NorthStar Rep. Signature:


15020

ABOVEGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

SECTION III. Site Assessment Information

Tank Registration # 056A (complete one sheet for EACH tank system and attach ALL laboratory sheets pertaining to that system)

Facility ID Number 51 - 33620

A. Provide depth of *BEDROCK* and *WATER* IF encountered during excavation or soil boring (write "N/A": if NOT encountered).

Bedrock N/A feet below land surface Water 15 feet below land surface

B. Provide Length of *PIPING* IF piping was closed-in-place (write "N/A" if NOT closed-in-place).

Length of piping N/A feet

C. TANK SYSTEM REMOVED FROM THE GROUND/SITE

1). Was obvious contamination observed while excavating, sampling or removing the tank system?

☒ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records ----→ Do not complete item C.2. below.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

---→ Complete item C.2. below.

2). Was contamination localized (within three feet of the tank system in every direction with no obvious water contamination)?

☐ YES ----→ Remove or remediate contaminated soil ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ NO ----→ Continue Interim Remedial Actions ----→ See end of this section for options on submission and maintenance of closure records.

D. TANK SYSTEM CLOSED-IN-PLACE OR CHANGED-IN-SERVICE

Was obvious contamination observed during sampling, boring or assessing water depths?

☐ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

Continue with corrective action ----→ See end of this section for options on submission and maintenance of closure records.

E. If the answer to C.1. is "no", the answer to C.2. is "yes" or the answer to D. is "no", confirmatory samples are required. Use the sample/analysis information sheet on page 10 of 11 to provide the information on confirmatory sampling and complete the diagram on Page 11 of 11.

Options for Submission and Maintenance of Closure Site Assessment Records

Records of the site assessment must be maintained for at least three years after completion of permanent closure or change-in-service in one of the following ways:

(a) By the owners and operators who took the tank system out of service;
(b) By the current owners and operators of the tank system site; or
(c) By mailing these records to the DEP regional office responsible for the county in which the tank is located if they cannot be maintained at the closed facility.

Where the results of the site assessment indicate that obvious, localized soil contamination was encountered and the analytical results of the confirmatory sampling show levels below the statewide standard/action levels, this closure report form (Sections I, II, and III) or some other acceptable site characterization report must be received by the Department within 180 days of verbally reporting the release.

Where the results of the site assessment indicate that no obvious contamination or obvious, localized contamination was encountered, but the analytical results of the confirmatory sampling show levels above the statewide standard/action levels, or where there is obvious, extensive contamination, Section 245.310(a)(8) of the Corrective Action Process (CAP) regulations requires that details of removal from service be included in the site characterization report. A copy of the completed closure report form should be submitted as part of the site characterization report to satisfy the requirements of Section 245.310(a)(8) of the CAP regulations.

I, Kevin Long , hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating to unsworn
(Print Name)
falsification to authorities) that I am the person who performed the site assessment activities associated with the closure of the above referenced storage tank system(s) and that the information provided by me in this closure report (Section III) is true, accurate and complete to the best of my knowledge and belief.

Kevin L. Long
Signature of Person Performing Site Assessment

2 / 1 / 2023
Date

Principal Consultant
Title of Person Performing Site Assessment

Terraphase Engineering, Inc.
Name of Company Performing Site Assessment

609-236-8171 x93
Telephone Number of Person Performing Site Assessment

ABOVEGROUND STORAGE TANK SYSTEM
CLOSURE REPORT FORM

Sample/Analysis Information
(Attachment for Section III.)

Facility ID Number 51 - 33620

Sample I.D. (See diagram)	Parameter	Analytical Method[1]		Media	Result (units)	Detection Limit (units)	Date Sample Taken	Date Sample Analyzed
See attached summary table							/ /	/ /
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[1] Where EPA Method 5035 is used, indicate sample collection option in the right-hand box of this column using the following codes:

P - Samples placed in a soil sample vial with a preservative present.
E - Samples collected and stored in a soil collection device which is airtight and affords little to no headspace.

N - Samples placed in soil sample vial without a preservative present.

Site Location and Sampling Map - Use this page or suitable facsimile to provide a large-scale map of the site where storage tank systems were closed. Scales between 1" = 10 and 1" = 100 feet frequently work well. Include the following information as each applies to the site: facility name and I.D., county, township or borough, property boundaries or area of interest, buildings, roads and streets with names or route numbers, utilities, location and ID number of storage tank systems removed including piping and dispensers, soil stockpile locations, excavations or other locations of product recovery, north arrow, approximate map scale and legend. Also, show depth and location of samples with sample ID numbers cross-referenced to the same ID numbers shown on Page 10 of 11.

Facility Name and ID: -

County:

Township/Borough: See attached Figure

Table 8 - 056A (PB 882)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-882-01	PB-882-01-SS01	3	3.5	Benzo(a)anthracene	SW8270DSIM	Soil	0.0014	0.0078	7/29/2021	8/3/2021
PB-882-01	PB-882-01-SS01	3	3.5	Benzo(b)fluoranthene	SW8270DSIM	Soil	0.00078	0.0078	7/29/2021	8/3/2021
PB-882-01	PB-882-01-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270DSIM	Soil	ND	0.0078	7/29/2021	8/3/2021
PB-882-01	PB-882-01-SS01	3	3.5	Chrysene	SW8270DSIM	Soil	0.00066	0.0078	7/29/2021	8/3/2021
PB-882-01	PB-882-01-SS01	3	3.5	Fluorene	SW8270DSIM	Soil	ND	0.0078	7/29/2021	8/3/2021
PB-882-01	PB-882-01-SS01	3	3.5	Naphthalene	SW8270DSIM	Soil	ND	0.0078	7/29/2021	8/3/2021
PB-882-01	PB-882-01-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0021	7/29/2021	8/4/2021
PB-882-01	PB-882-01-SS01	3	3.5	Pyrene	SW8270DSIM	Soil	0.0014	0.0078	7/29/2021	8/3/2021
PB-882-01	PB-882-01-SS01	3	3.5	Anthracene	SW8270DSIM	Soil	ND	0.0078	7/29/2021	8/3/2021
PB-882-01	PB-882-01-SS01	3	3.5	Phenanthrene	SW8270DSIM	Soil	0.00093	0.0078	7/29/2021	8/3/2021
PB-882-01	PB-882-01-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/29/2021	8/4/2021
PB-882-01	PB-882-01-SS01	3	3.5	Benzo(a)pyrene	SW8270DSIM	Soil	ND	0.0078	7/29/2021	8/3/2021
PB-882-01	PB-882-01-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/29/2021	8/4/2021
PB-882-01	PB-882-01-SS01	3	3.5	Lead	SW6010C	Soil	4.2	2.4	7/29/2021	8/6/2021
PB-882-01	PB-882-01-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00052	7/29/2021	8/4/2021
PB-882-01	PB-882-01-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/29/2021	8/4/2021
PB-882-01	PB-882-01-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/29/2021	8/4/2021
PB-882-01	PB-882-01-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00052	7/29/2021	8/4/2021
PB-882-01	PB-882-01-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	7/29/2021	8/4/2021
PB-882-01	PB-882-01-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/29/2021	8/4/2021
PB-882-01	PB-882-01-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0021	7/29/2021	8/4/2021
PB-882-02	PB-882-02-SS01	3	3.5	Lead	SW6010C	Soil	5.3	2.3	7/29/2021	8/6/2021
PB-882-02	PB-882-02-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00095	7/29/2021	8/4/2021
PB-882-02	PB-882-02-SS01	3	3.5	Anthracene	SW8270DSIM	Soil	ND	0.0072	7/29/2021	8/3/2021
PB-882-02	PB-882-02-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0019	7/29/2021	8/4/2021
PB-882-02	PB-882-02-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00095	7/29/2021	8/4/2021
PB-882-02	PB-882-02-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0019	7/29/2021	8/4/2021
PB-882-02	PB-882-02-SS01	3	3.5	Benzo(a)anthracene	SW8270DSIM	Soil	0.00094	0.0072	7/29/2021	8/3/2021
PB-882-02	PB-882-02-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00095	7/29/2021	8/4/2021
PB-882-02	PB-882-02-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00047	7/29/2021	8/4/2021
PB-882-02	PB-882-02-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/29/2021	8/4/2021
PB-882-02	PB-882-02-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00095	7/29/2021	8/4/2021
PB-882-02	PB-882-02-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/29/2021	8/4/2021
PB-882-02	PB-882-02-SS01	3	3.5	Benzo(a)pyrene	SW8270DSIM	Soil	ND	0.0072	7/29/2021	8/3/2021
PB-882-02	PB-882-02-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00047	7/29/2021	8/4/2021
PB-882-02	PB-882-02-SS01	3	3.5	Benzo(b)fluoranthene	SW8270DSIM	Soil	ND	0.0072	7/29/2021	8/3/2021
PB-882-02	PB-882-02-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270DSIM	Soil	ND	0.0072	7/29/2021	8/3/2021
PB-882-02	PB-882-02-SS01	3	3.5	Chrysene	SW8270DSIM	Soil	ND	0.0072	7/29/2021	8/3/2021
PB-882-02	PB-882-02-SS01	3	3.5	Fluorene	SW8270DSIM	Soil	ND	0.0072	7/29/2021	8/3/2021
PB-882-02	PB-882-02-SS01	3	3.5	Naphthalene	SW8270DSIM	Soil	ND	0.0072	7/29/2021	8/3/2021
PB-882-02	PB-882-02-SS01	3	3.5	Phenanthrene	SW8270DSIM	Soil	ND	0.0072	7/29/2021	8/3/2021
PB-882-02	PB-882-02-SS01	3	3.5	Pyrene	SW8270DSIM	Soil	ND	0.0072	7/29/2021	8/3/2021
PB-882-03	PB-882-03-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-03	PB-882-03-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-03	PB-882-03-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/13/2022	7/15/2022
PB-882-03	PB-882-03-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-03	PB-882-03-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/13/2022	7/15/2022
PB-882-03	PB-882-03-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	7/13/2022	7/15/2022
PB-882-03	PB-882-03-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/13/2022	7/18/2022
PB-882-03	PB-882-03-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-03	PB-882-03-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-03	PB-882-03-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-03	PB-882-03-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/13/2022	7/18/2022
PB-882-03	PB-882-03-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/13/2022	7/15/2022
PB-882-03	PB-882-03-SS01	3	3.5	Lead	SW6010D	Soil	9.65	4.74	7/13/2022	7/19/2022
PB-882-03	PB-882-03-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0009	7/13/2022	7/18/2022
PB-882-03	PB-882-03-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00045	7/13/2022	7/18/2022
PB-882-03	PB-882-03-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0009	7/13/2022	7/18/2022
PB-882-03	PB-882-03-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/13/2022	7/18/2022
PB-882-03	PB-882-03-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00045	7/13/2022	7/18/2022
PB-882-03	PB-882-03-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0009	7/13/2022	7/18/2022
PB-882-03	PB-882-03-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0009	7/13/2022	7/18/2022
PB-882-03	PB-882-03-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/13/2022	7/18/2022
PB-882-04	PB-882-04-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-04	PB-882-04-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.00096	0.0019	7/13/2022	7/18/2022
PB-882-04	PB-882-04-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-04	PB-882-04-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/13/2022	7/15/2022
PB-882-04	PB-882-04-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/13/2022	7/15/2022
PB-882-04	PB-882-04-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-04	PB-882-04-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/13/2022	7/15/2022
PB-882-04	PB-882-04-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-04	PB-882-04-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/13/2022	7/15/2022
PB-882-04	PB-882-04-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-04	PB-882-04-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-04	PB-882-04-SS01	3	3.5	Lead	SW6010D	Soil	6.1	4.59	7/13/2022	7/19/2022
PB-882-04	PB-882-04-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00095	7/13/2022	7/18/2022
PB-882-04	PB-882-04-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0019	7/13/2022	7/18/2022
PB-882-04	PB-882-04-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	0.00014	0.00095	7/13/2022	7/18/2022
PB-882-04	PB-882-04-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00095	7/13/2022	7/18/2022
PB-882-04	PB-882-04-SS01	3	3.5	Benzene	SW8260C	Soil	0.00058	0.00048	7/13/2022	7/18/2022
PB-882-04	PB-882-04-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.00038	0.0019	7/13/2022	7/18/2022
PB-882-04	PB-882-04-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00048	7/13/2022	7/18/2022
PB-882-04	PB-882-04-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.001075	0.0019	7/13/2022	7/18/2022
PB-882-04	PB-882-04-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00095	7/13/2022	7/18/2022
PB-882-05	PB-882-05-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-882-05	PB-882-05-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/13/2022	7/15/2022
PB-882-05	PB-882-05-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-882-05	PB-882-05-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/13/2022	7/15/2022
PB-882-05	PB-882-05-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-882-05	PB-882-05-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/13/2022	7/15/2022
PB-882-05	PB-882-05-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/13/2022	7/15/2022
PB-882-05	PB-882-05-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-882-05	PB-882-05-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/13/2022	7/18/2022
PB-882-05	PB-882-05-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-882-05	PB-882-05-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-882-05	PB-882-05-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/13/2022	7/18/2022
PB-882-05	PB-882-05-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/13/2022	7/18/2022
PB-882-05	PB-882-05-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/13/2022	7/18/2022
PB-882-05	PB-882-05-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	7/13/2022	7/18/2022
PB-882-05	PB-882-05-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0005	7/13/2022	7/18/2022
PB-882-05	PB-882-05-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/13/2022	7/18/2022
PB-882-05	PB-882-05-SS01	3	3.5	Lead	SW6010D	Soil	5.09	4.5	7/13/2022	7/19/2022
PB-882-05	PB-882-05-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0005	7/13/2022	7/18/2022
PB-882-05	PB-882-05-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/13/2022	7/18/2022
PB-882-05	PB-882-05-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/13/2022	7/18/2022
PB-882-06	PB-882-06-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022

Table 8 - 056A (PB 882)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-882-06	PB-882-06-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-06	PB-882-06-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/13/2022	7/15/2022
PB-882-06	PB-882-06-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-06	PB-882-06-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/13/2022	7/15/2022
PB-882-06	PB-882-06-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-06	PB-882-06-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/13/2022	7/15/2022
PB-882-06	PB-882-06-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-06	PB-882-06-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/13/2022	7/18/2022
PB-882-06	PB-882-06-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/13/2022	7/15/2022
PB-882-06	PB-882-06-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00045	7/13/2022	7/18/2022
PB-882-06	PB-882-06-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-06	PB-882-06-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00091	7/13/2022	7/18/2022
PB-882-06	PB-882-06-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/13/2022	7/18/2022
PB-882-06	PB-882-06-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00091	7/13/2022	7/18/2022
PB-882-06	PB-882-06-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/13/2022	7/18/2022
PB-882-06	PB-882-06-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00045	7/13/2022	7/18/2022
PB-882-06	PB-882-06-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00091	7/13/2022	7/18/2022
PB-882-06	PB-882-06-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00091	7/13/2022	7/18/2022
PB-882-06	PB-882-06-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/13/2022	7/18/2022
PB-882-06	PB-882-06-SS01	3	3.5	Lead	SW6010D	Soil	5.96	4.56	7/13/2022	7/19/2022
PB-882-07	PB-882-07-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/13/2022	7/18/2022
PB-882-07	PB-882-07-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/13/2022	7/15/2022
PB-882-07	PB-882-07-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-07	PB-882-07-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/13/2022	7/15/2022
PB-882-07	PB-882-07-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-07	PB-882-07-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-07	PB-882-07-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/13/2022	7/15/2022
PB-882-07	PB-882-07-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/13/2022	7/15/2022
PB-882-07	PB-882-07-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-07	PB-882-07-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-07	PB-882-07-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-07	PB-882-07-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00091	7/13/2022	7/18/2022
PB-882-07	PB-882-07-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00091	7/13/2022	7/18/2022
PB-882-07	PB-882-07-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/13/2022	7/18/2022
PB-882-07	PB-882-07-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00091	7/13/2022	7/18/2022
PB-882-07	PB-882-07-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00091	7/13/2022	7/18/2022
PB-882-07	PB-882-07-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00046	7/13/2022	7/18/2022
PB-882-07	PB-882-07-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/13/2022	7/18/2022
PB-882-07	PB-882-07-SS01	3	3.5	Lead	SW6010D	Soil	5.62	4.66	7/13/2022	7/19/2022
PB-882-07	PB-882-07-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00046	7/13/2022	7/18/2022
PB-882-07	PB-882-07-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/13/2022	7/18/2022
PB-882-08	PB-882-08-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-08	PB-882-08-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/13/2022	7/15/2022
PB-882-08	PB-882-08-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-08	PB-882-08-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/13/2022	7/15/2022
PB-882-08	PB-882-08-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-08	PB-882-08-SS01	4.5	5	Fluorene	SW8270D	Soil	0.4	0.19	7/13/2022	7/15/2022
PB-882-08	PB-882-08-SS01	4.5	5	Naphthalene	SW8270D	Soil	1.6	0.19	7/13/2022	7/15/2022
PB-882-08	PB-882-08-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-08	PB-882-08-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.00089	7/13/2022	7/20/2022
PB-882-08	PB-882-08-SS01	4.5	5	Phenanthrene	SW8270D	Soil	0.78	0.12	7/13/2022	7/15/2022
PB-882-08	PB-882-08-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.041	0.0018	7/13/2022	7/20/2022
PB-882-08	PB-882-08-SS01	4.5	5	Anthracene	SW8270D	Soil	0.041	0.12	7/13/2022	7/15/2022
PB-882-08	PB-882-08-SS01	4.5	5	Lead	SW6010D	Soil	3.78	4.65	7/13/2022	7/19/2022
PB-882-08	PB-882-08-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	0.004945	0.0018	7/13/2022	7/20/2022
PB-882-08	PB-882-08-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00045	7/13/2022	7/20/2022
PB-882-08	PB-882-08-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00089	7/13/2022	7/20/2022
PB-882-08	PB-882-08-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.016	0.0018	7/13/2022	7/20/2022
PB-882-08	PB-882-08-SS01	4.5	5	Benzene	SW8260C	Soil	ND	0.00045	7/13/2022	7/20/2022
PB-882-08	PB-882-08-SS01	4.5	5	Cumene	SW8260C	Soil	0.039	0.00089	7/13/2022	7/20/2022
PB-882-08	PB-882-08-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	0.017	0.00089	7/13/2022	7/20/2022
PB-882-08	PB-882-08-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/13/2022	7/20/2022
PB-882-09	PB-882-09-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	0.0025	0.0022	7/13/2022	7/20/2022
PB-882-09	PB-882-09-SS01	4	4.5	Naphthalene	SW8270D	Soil	0.06	0.2	7/13/2022	7/15/2022
PB-882-09	PB-882-09-SS01	4	4.5	Fluorene	SW8270D	Soil	0.99	0.2	7/13/2022	7/15/2022
PB-882-09	PB-882-09-SS01	4	4.5	Chrysene	SW8270D	Soil	0.094	0.12	7/13/2022	7/15/2022
PB-882-09	PB-882-09-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/13/2022	7/15/2022
PB-882-09	PB-882-09-SS01	4	4.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-09	PB-882-09-SS01	4	4.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/13/2022	7/15/2022
PB-882-09	PB-882-09-SS01	4	4.5	Pyrene	SW8270D	Soil	0.062	0.12	7/13/2022	7/15/2022
PB-882-09	PB-882-09-SS01	4	4.5	Anthracene	SW8270D	Soil	0.076	0.12	7/13/2022	7/15/2022
PB-882-09	PB-882-09-SS01	4	4.5	Phenanthrene	SW8270D	Soil	1.7	0.12	7/13/2022	7/15/2022
PB-882-09	PB-882-09-SS01	4	4.5	Lead	SW6010D	Soil	4.45	4.8	7/13/2022	7/19/2022
PB-882-09	PB-882-09-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	7/13/2022	7/20/2022
PB-882-09	PB-882-09-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/13/2022	7/20/2022
PB-882-09	PB-882-09-SS01	4	4.5	Cumene	SW8260C	Soil	0.042	0.0011	7/13/2022	7/20/2022
PB-882-09	PB-882-09-SS01	4	4.5	Benzene	SW8260C	Soil	ND	0.00054	7/13/2022	7/20/2022
PB-882-09	PB-882-09-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/13/2022	7/20/2022
PB-882-09	PB-882-09-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/13/2022	7/20/2022
PB-882-09	PB-882-09-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00054	7/13/2022	7/20/2022
PB-882-09	PB-882-09-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/13/2022	7/20/2022
PB-882-09	PB-882-09-SS01	4	4.5	Benzo(a)anthracene	SW8270D	Soil	0.024	0.12	7/13/2022	7/15/2022
PB-882-09	PB-882-09-SS01	4	4.5	Toluene	SW8260C	Soil	0.00079	0.0011	7/13/2022	7/20/2022
PB-882-10	PB-882-10-SS01	4	4.5	Benzo(a)anthracene	SW8270DSIM	Soil	0.022	0.036	7/30/2021	8/8/2021
PB-882-10	PB-882-10-SS01	4	4.5	Benzo(a)pyrene	SW8270DSIM	Soil	0.014	0.036	7/30/2021	8/8/2021
PB-882-10	PB-882-10-SS01	4	4.5	Benzo(b)fluoranthene	SW8270DSIM	Soil	0.028	0.036	7/30/2021	8/8/2021
PB-882-10	PB-882-10-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270DSIM	Soil	0.018	0.036	7/30/2021	8/8/2021
PB-882-10	PB-882-10-SS01	4	4.5	Chrysene	SW8270DSIM	Soil	0.27	0.036	7/30/2021	8/8/2021
PB-882-10	PB-882-10-SS01	4	4.5	Fluorene	SW8270DSIM	Soil	0.57	0.036	7/30/2021	8/8/2021
PB-882-10	PB-882-10-SS01	4	4.5	Naphthalene	SW8270DSIM	Soil	0.16	0.036	7/30/2021	8/8/2021
PB-882-10	PB-882-10-SS01	4	4.5	Pyrene	SW8270DSIM	Soil	0.083	0.036	7/30/2021	8/8/2021
PB-882-10	PB-882-10-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.19	7/30/2021	8/5/2021
PB-882-10	PB-882-10-SS01	4	4.5	Phenanthrene	SW8270DSIM	Soil	1.4	0.036	7/30/2021	8/8/2021
PB-882-10	PB-882-10-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.095	7/30/2021	8/5/2021
PB-882-10	PB-882-10-SS01	4	4.5	Anthracene	SW8270DSIM	Soil	0.068	0.036	7/30/2021	8/8/2021
PB-882-10	PB-882-10-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	ND	0.38	7/30/2021	8/5/2021
PB-882-10	PB-882-10-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.38	7/30/2021	8/5/2021
PB-882-10	PB-882-10-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.19	7/30/2021	8/5/2021
PB-882-10	PB-882-10-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.38	7/30/2021	8/5/2021
PB-882-10	PB-882-10-SS01	4	4.5	Benzene	SW8260C	Soil	ND	0.095	7/30/2021	8/5/2021
PB-882-10	PB-882-10-SS01	4	4.5	Cumene	SW8260C	Soil	1.2	0.19	7/30/2021	8/5/2021
PB-882-10	PB-882-10-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	ND	0.19	7/30/2021	8/5/2021
PB-882-10	PB-882-10-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.38	7/30/2021	8/5/2021
PB-882-10	PB-882-10-SS01	4	4.5	Lead	SW6010C	Soil	ND	12	7/30/2021	8/9/2021
PB-882-11	PB-882-11-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/13/2022	7/18/2022
PB-882-11	PB-882-11-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/13/2022	7/15/2022

Table 8 - 056A (PB 882)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-882-11	PB-882-11-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-11	PB-882-11-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/13/2022	7/15/2022
PB-882-11	PB-882-11-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-11	PB-882-11-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-11	PB-882-11-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/13/2022	7/15/2022
PB-882-11	PB-882-11-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/13/2022	7/15/2022
PB-882-11	PB-882-11-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-11	PB-882-11-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-11	PB-882-11-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-11	PB-882-11-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00087	7/13/2022	7/18/2022
PB-882-11	PB-882-11-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00087	7/13/2022	7/18/2022
PB-882-11	PB-882-11-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.0016	0.0017	7/13/2022	7/18/2022
PB-882-11	PB-882-11-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00087	7/13/2022	7/18/2022
PB-882-11	PB-882-11-SS01	3	3.5	Cumene	SW8260C	Soil	0.0001	0.00087	7/13/2022	7/18/2022
PB-882-11	PB-882-11-SS01	3	3.5	Benzene	SW8260C	Soil	0.00032	0.00043	7/13/2022	7/18/2022
PB-882-11	PB-882-11-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/13/2022	7/18/2022
PB-882-11	PB-882-11-SS01	3	3.5	Lead	SW6010D	Soil	5.69	4.61	7/13/2022	7/19/2022
PB-882-11	PB-882-11-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00043	7/13/2022	7/18/2022
PB-882-11	PB-882-11-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0017	7/13/2022	7/18/2022
PB-882-12	PB-882-12-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-12	PB-882-12-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/13/2022	7/15/2022
PB-882-12	PB-882-12-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-12	PB-882-12-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/13/2022	7/15/2022
PB-882-12	PB-882-12-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-12	PB-882-12-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/13/2022	7/15/2022
PB-882-12	PB-882-12-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/13/2022	7/15/2022
PB-882-12	PB-882-12-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-12	PB-882-12-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00085	7/13/2022	7/18/2022
PB-882-12	PB-882-12-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-12	PB-882-12-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/13/2022	7/18/2022
PB-882-12	PB-882-12-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-12	PB-882-12-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/13/2022	7/18/2022
PB-882-12	PB-882-12-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/13/2022	7/15/2022
PB-882-12	PB-882-12-SS01	3	3.5	Lead	SW6010D	Soil	7.37	4.65	7/13/2022	7/19/2022
PB-882-12	PB-882-12-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0017	7/13/2022	7/18/2022
PB-882-12	PB-882-12-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00043	7/13/2022	7/18/2022
PB-882-12	PB-882-12-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00085	7/13/2022	7/18/2022
PB-882-12	PB-882-12-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/13/2022	7/18/2022
PB-882-12	PB-882-12-SS01	3	3.5	Benzene	SW8260C	Soil	0.00037	0.00043	7/13/2022	7/18/2022
PB-882-12	PB-882-12-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00085	7/13/2022	7/18/2022
PB-882-12	PB-882-12-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00085	7/13/2022	7/18/2022
PB-882-12	PB-882-12-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0017	7/13/2022	7/18/2022
PB-882-13	PB-882-13-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00092	7/13/2022	7/18/2022
PB-882-13	PB-882-13-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-882-13	PB-882-13-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/13/2022	7/15/2022
PB-882-13	PB-882-13-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/13/2022	7/15/2022
PB-882-13	PB-882-13-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-882-13	PB-882-13-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/13/2022	7/15/2022
PB-882-13	PB-882-13-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-882-13	PB-882-13-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/13/2022	7/15/2022
PB-882-13	PB-882-13-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-882-13	PB-882-13-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-882-13	PB-882-13-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/13/2022	7/18/2022
PB-882-13	PB-882-13-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/13/2022	7/15/2022
PB-882-13	PB-882-13-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/13/2022	7/18/2022
PB-882-13	PB-882-13-SS01	3	3.5	Lead	SW6010D	Soil	5.83	4.54	7/13/2022	7/19/2022
PB-882-13	PB-882-13-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00046	7/13/2022	7/18/2022
PB-882-13	PB-882-13-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00092	7/13/2022	7/18/2022
PB-882-13	PB-882-13-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/13/2022	7/18/2022
PB-882-13	PB-882-13-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00046	7/13/2022	7/18/2022
PB-882-13	PB-882-13-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00092	7/13/2022	7/18/2022
PB-882-13	PB-882-13-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00092	7/13/2022	7/18/2022
PB-882-13	PB-882-13-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/13/2022	7/18/2022
PB-882-14	PB-882-14-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/30/2021	8/5/2021
PB-882-14	PB-882-14-SS01	3	3.5	Naphthalene	SW8270DSIM	Soil	0.13	0.016	7/30/2021	8/10/2021
PB-882-14	PB-882-14-SS01	3	3.5	Fluorene	SW8270DSIM	Soil	0.29	0.016	7/30/2021	8/10/2021
PB-882-14	PB-882-14-SS01	3	3.5	Chrysene	SW8270DSIM	Soil	0.16	0.016	7/30/2021	8/10/2021
PB-882-14	PB-882-14-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270DSIM	Soil	0.0097	0.016	7/30/2021	8/10/2021
PB-882-14	PB-882-14-SS01	3	3.5	Benzo(b)fluoranthene	SW8270DSIM	Soil	0.02	0.016	7/30/2021	8/10/2021
PB-882-14	PB-882-14-SS01	3	3.5	Benzo(a)pyrene	SW8270DSIM	Soil	0.018	0.016	7/30/2021	8/10/2021
PB-882-14	PB-882-14-SS01	3	3.5	Benzo(a)anthracene	SW8270DSIM	Soil	0.035	0.016	7/30/2021	8/10/2021
PB-882-14	PB-882-14-SS01	3	3.5	Pyrene	SW8270DSIM	Soil	0.05	0.016	7/30/2021	8/10/2021
PB-882-14	PB-882-14-SS01	3	3.5	Phenanthrene	SW8270DSIM	Soil	0.84	0.016	7/30/2021	8/10/2021
PB-882-14	PB-882-14-SS01	3	3.5	Lead	SW6010C	Soil	7	2.5	7/30/2021	8/6/2021
PB-882-14	PB-882-14-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/30/2021	8/5/2021
PB-882-14	PB-882-14-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/30/2021	8/5/2021
PB-882-14	PB-882-14-SS01	3	3.5	Cumene	SW8260C	Soil	0.0031	0.001	7/30/2021	8/5/2021
PB-882-14	PB-882-14-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0005	7/30/2021	8/5/2021
PB-882-14	PB-882-14-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.005	0.002	7/30/2021	8/5/2021
PB-882-14	PB-882-14-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/30/2021	8/5/2021
PB-882-14	PB-882-14-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0005	7/30/2021	8/5/2021
PB-882-14	PB-882-14-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.0077	0.002	7/30/2021	8/5/2021
PB-882-14	PB-882-14-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/30/2021	8/5/2021
PB-882-14	PB-882-14-SS01	3	3.5	Anthracene	SW8270DSIM	Soil	ND	0.016	7/30/2021	8/10/2021
PB-882-15	PB-882-15-SS01	3	3.5	Anthracene	SW8270DSIM	Soil	0.024	0.008	7/30/2021	8/7/2021
PB-882-15	PB-882-15-SS01	3	3.5	Pyrene	SW8270DSIM	Soil	0.047	0.008	7/30/2021	8/7/2021
PB-882-15	PB-882-15-SS01	3	3.5	Benzo(a)pyrene	SW8270DSIM	Soil	0.019	0.008	7/30/2021	8/7/2021
PB-882-15	PB-882-15-SS01	3	3.5	Benzo(b)fluoranthene	SW8270DSIM	Soil	0.024	0.008	7/30/2021	8/7/2021
PB-882-15	PB-882-15-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270DSIM	Soil	0.0076	0.008	7/30/2021	8/7/2021
PB-882-15	PB-882-15-SS01	3	3.5	Chrysene	SW8270DSIM	Soil	0.023	0.008	7/30/2021	8/7/2021
PB-882-15	PB-882-15-SS01	3	3.5	Fluorene	SW8270DSIM	Soil	0.015	0.008	7/30/2021	8/7/2021
PB-882-15	PB-882-15-SS01	3	3.5	Naphthalene	SW8270DSIM	Soil	0.0094	0.008	7/30/2021	8/7/2021
PB-882-15	PB-882-15-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/30/2021	8/5/2021
PB-882-15	PB-882-15-SS01	3	3.5	Phenanthrene	SW8270DSIM	Soil	0.079	0.008	7/30/2021	8/7/2021
PB-882-15	PB-882-15-SS01	3	3.5	Lead	SW6010C	Soil	19.4	2.5	7/30/2021	8/6/2021
PB-882-15	PB-882-15-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/30/2021	8/5/2021
PB-882-15	PB-882-15-SS01	3	3.5	Benzo(a)anthracene	SW8270DSIM	Soil	0.03	0.008	7/30/2021	8/7/2021
PB-882-15	PB-882-15-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/30/2021	8/5/2021
PB-882-15	PB-882-15-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0005	7/30/2021	8/5/2021
PB-882-15	PB-882-15-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/30/2021	8/5/2021
PB-882-15	PB-882-15-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/30/2021	8/5/2021
PB-882-15	PB-882-15-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0005	7/30/2021	8/5/2021
PB-882-15	PB-882-15-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	7/30/2021	8/5/2021
PB-882-15	PB-882-15-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/30/2021	8/5/2021
PB-882-15	PB-882-15-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/30/2021	8/5/2021
PB-882-16	PB-882-16-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.1	7/30/2021	8/5/2021
PB-882-16	PB-882-16-SS01	4	4.5	Phenanthrene	SW8270DSIM	Soil	2.3	0.077	7/30/2021	8/10/2021
PB-882-16	PB-882-16-SS01	4	4.5	Naphthalene	SW8270DSIM	Soil	4.2	0.077	7/30/2021	8/10/2021

Table 8 - 056A (PB 882)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-882-16	PB-882-16-SS01	4	4.5	Fluorene	SW8270DSIM	Soil	0.78	0.077	7/30/2021	8/10/2021
PB-882-16	PB-882-16-SS01	4	4.5	Chrysene	SW8270DSIM	Soil	0.44	0.077	7/30/2021	8/10/2021
PB-882-16	PB-882-16-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270DSIM	Soil	0.035	0.077	7/30/2021	8/10/2021
PB-882-16	PB-882-16-SS01	4	4.5	Benzo(b)fluoranthene	SW8270DSIM	Soil	0.047	0.077	7/30/2021	8/10/2021
PB-882-16	PB-882-16-SS01	4	4.5	Benzo(a)pyrene	SW8270DSIM	Soil	0.036	0.077	7/30/2021	8/10/2021
PB-882-16	PB-882-16-SS01	4	4.5	Benzo(a)anthracene	SW8270DSIM	Soil	0.07	0.077	7/30/2021	8/10/2021
PB-882-16	PB-882-16-SS01	4	4.5	Pyrene	SW8270DSIM	Soil	0.16	0.077	7/30/2021	8/10/2021
PB-882-16	PB-882-16-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	64	1	7/30/2021	8/5/2021
PB-882-16	PB-882-16-SS01	4	4.5	Anthracene	SW8270DSIM	Soil	ND	0.077	7/30/2021	8/10/2021
PB-882-16	PB-882-16-SS01	4	4.5	Lead	SW6010C	Soil	11.3	2.3	7/30/2021	8/6/2021
PB-882-16	PB-882-16-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	39.2	0.2	7/30/2021	8/5/2021
PB-882-16	PB-882-16-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.05	7/30/2021	8/5/2021
PB-882-16	PB-882-16-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.1	7/30/2021	8/5/2021
PB-882-16	PB-882-16-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	18	0.2	7/30/2021	8/5/2021
PB-882-16	PB-882-16-SS01	4	4.5	Benzene	SW8260C	Soil	ND	0.05	7/30/2021	8/5/2021
PB-882-16	PB-882-16-SS01	4	4.5	Cumene	SW8260C	Soil	6.4	0.1	7/30/2021	8/5/2021
PB-882-16	PB-882-16-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	17	0.1	7/30/2021	8/5/2021
PB-882-16	PB-882-16-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.2	7/30/2021	8/5/2021
PB-882-17	PB-882-17-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/30/2021	8/5/2021
PB-882-17	PB-882-17-SS01	3	3.5	Naphthalene	SW8270DSIM	Soil	0.0096	0.014	7/30/2021	8/7/2021
PB-882-17	PB-882-17-SS01	3	3.5	Fluorene	SW8270DSIM	Soil	0.088	0.014	7/30/2021	8/7/2021
PB-882-17	PB-882-17-SS01	3	3.5	Chrysene	SW8270DSIM	Soil	0.028	0.014	7/30/2021	8/7/2021
PB-882-17	PB-882-17-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270DSIM	Soil	0.002	0.014	7/30/2021	8/7/2021
PB-882-17	PB-882-17-SS01	3	3.5	Benzo(b)fluoranthene	SW8270DSIM	Soil	0.0048	0.014	7/30/2021	8/7/2021
PB-882-17	PB-882-17-SS01	3	3.5	Benzo(a)pyrene	SW8270DSIM	Soil	0.002	0.014	7/30/2021	8/7/2021
PB-882-17	PB-882-17-SS01	3	3.5	Benzo(a)anthracene	SW8270DSIM	Soil	0.0069	0.014	7/30/2021	8/7/2021
PB-882-17	PB-882-17-SS01	3	3.5	Pyrene	SW8270DSIM	Soil	0.0089	0.014	7/30/2021	8/7/2021
PB-882-17	PB-882-17-SS01	3	3.5	Phenanthrene	SW8270DSIM	Soil	0.11	0.014	7/30/2021	8/7/2021
PB-882-17	PB-882-17-SS01	3	3.5	Lead	SW6010C	Soil	3.9	2.3	7/30/2021	8/6/2021
PB-882-17	PB-882-17-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	7/30/2021	8/5/2021
PB-882-17	PB-882-17-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/30/2021	8/5/2021
PB-882-17	PB-882-17-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	7/30/2021	8/5/2021
PB-882-17	PB-882-17-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00054	7/30/2021	8/5/2021
PB-882-17	PB-882-17-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/30/2021	8/5/2021
PB-882-17	PB-882-17-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/30/2021	8/5/2021
PB-882-17	PB-882-17-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00054	7/30/2021	8/5/2021
PB-882-17	PB-882-17-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/30/2021	8/5/2021
PB-882-17	PB-882-17-SS01	3	3.5	Anthracene	SW8270DSIM	Soil	ND	0.014	7/30/2021	8/7/2021
PB-882-17	PB-882-17-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	Benzo(a)anthracene	SW8270DSIM	Soil	ND	0.0079	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	Benzo(a)pyrene	SW8270DSIM	Soil	ND	0.0079	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	Benzo(b)fluoranthene	SW8270DSIM	Soil	ND	0.0079	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270DSIM	Soil	ND	0.0079	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	Chrysene	SW8270DSIM	Soil	ND	0.0079	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	Fluorene	SW8270DSIM	Soil	ND	0.0079	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	Naphthalene	SW8270DSIM	Soil	ND	0.0079	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	Pyrene	SW8270DSIM	Soil	0.002	0.0079	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	Phenanthrene	SW8270DSIM	Soil	0.0041	0.0079	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00054	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	Anthracene	SW8270DSIM	Soil	0.00075	0.0079	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00054	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	7/30/2021	8/5/2021
PB-882-18	PB-882-18-SS01	3	3.5	Lead	SW6010C	Soil	11.3	2.4	7/30/2021	8/6/2021
PB-882-19	PB-882-19-SS01	3	3.5	Lead	SW6010C	Soil	10	2.6	7/30/2021	8/6/2021
PB-882-19	PB-882-19-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270DSIM	Soil	ND	0.0082	7/30/2021	8/5/2021
PB-882-19	PB-882-19-SS01	3	3.5	Benzo(a)anthracene	SW8270DSIM	Soil	ND	0.0082	7/30/2021	8/5/2021
PB-882-19	PB-882-19-SS01	3	3.5	Benzo(a)pyrene	SW8270DSIM	Soil	ND	0.0082	7/30/2021	8/5/2021
PB-882-19	PB-882-19-SS01	3	3.5	Benzo(b)fluoranthene	SW8270DSIM	Soil	ND	0.0082	7/30/2021	8/5/2021
PB-882-19	PB-882-19-SS01	3	3.5	Chrysene	SW8270DSIM	Soil	ND	0.0082	7/30/2021	8/5/2021
PB-882-19	PB-882-19-SS01	3	3.5	Fluorene	SW8270DSIM	Soil	ND	0.0082	7/30/2021	8/5/2021
PB-882-19	PB-882-19-SS01	3	3.5	Naphthalene	SW8270DSIM	Soil	ND	0.0082	7/30/2021	8/5/2021
PB-882-19	PB-882-19-SS01	3	3.5	Phenanthrene	SW8270DSIM	Soil	0.0014	0.0082	7/30/2021	8/5/2021
PB-882-19	PB-882-19-SS01	3	3.5	Anthracene	SW8270DSIM	Soil	ND	0.0082	7/30/2021	8/5/2021
PB-882-19	PB-882-19-SS01	3	3.5	Pyrene	SW8270DSIM	Soil	ND	0.0082	7/30/2021	8/5/2021
PB-882-19	PB-882-19-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/30/2021	8/5/2021
PB-882-19	PB-882-19-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/30/2021	8/5/2021
PB-882-19	PB-882-19-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	7/30/2021	8/5/2021
PB-882-19	PB-882-19-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/30/2021	8/5/2021
PB-882-19	PB-882-19-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	7/30/2021	8/5/2021
PB-882-19	PB-882-19-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00055	7/30/2021	8/5/2021
PB-882-19	PB-882-19-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/30/2021	8/5/2021
PB-882-19	PB-882-19-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/30/2021	8/5/2021
PB-882-19	PB-882-19-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00055	7/30/2021	8/5/2021
PB-882-19	PB-882-19-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	7/30/2021	8/5/2021
PB-882-20	PB-882-20-SS01	3	3.5	Benzo(a)anthracene	SW8270DSIM	Soil	0.076	0.016	7/30/2021	8/7/2021
PB-882-20	PB-882-20-SS01	3	3.5	Benzo(a)pyrene	SW8270DSIM	Soil	0.04	0.016	7/30/2021	8/7/2021
PB-882-20	PB-882-20-SS01	3	3.5	Benzo(b)fluoranthene	SW8270DSIM	Soil	0.074	0.016	7/30/2021	8/7/2021
PB-882-20	PB-882-20-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270DSIM	Soil	0.038	0.016	7/30/2021	8/7/2021
PB-882-20	PB-882-20-SS01	3	3.5	Chrysene	SW8270DSIM	Soil	0.42	0.016	7/30/2021	8/7/2021
PB-882-20	PB-882-20-SS01	3	3.5	Fluorene	SW8270DSIM	Soil	0.46	0.016	7/30/2021	8/7/2021
PB-882-20	PB-882-20-SS01	3	3.5	Naphthalene	SW8270DSIM	Soil	0.062	0.016	7/30/2021	8/7/2021
PB-882-20	PB-882-20-SS01	3	3.5	Pyrene	SW8270DSIM	Soil	0.14	0.016	7/30/2021	8/7/2021
PB-882-20	PB-882-20-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/30/2021	8/5/2021
PB-882-20	PB-882-20-SS01	3	3.5	Phenanthrene	SW8270DSIM	Soil	1.2	0.016	7/30/2021	8/7/2021
PB-882-20	PB-882-20-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/30/2021	8/5/2021
PB-882-20	PB-882-20-SS01	3	3.5	Anthracene	SW8270DSIM	Soil	ND	0.016	7/30/2021	8/7/2021
PB-882-20	PB-882-20-SS01	3	3.5	Lead	SW6010C	Soil	73.6	2.5	7/30/2021	8/6/2021
PB-882-20	PB-882-20-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/30/2021	8/5/2021
PB-882-20	PB-882-20-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00051	7/30/2021	8/5/2021
PB-882-20	PB-882-20-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/30/2021	8/5/2021
PB-882-20	PB-882-20-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/30/2021	8/5/2021
PB-882-20	PB-882-20-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00051	7/30/2021	8/5/2021
PB-882-20	PB-882-20-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	7/30/2021	8/5/2021
PB-882-20	PB-882-20-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/30/2021	8/5/2021
PB-882-20	PB-882-20-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/30/2021	8/5/2021

Notes:
SS -- Soil Sample.

PB-882-02
PB-882-01
PB-882-03
PB-882-05
PB-882-04
PB-882-06
PB-882-07
PB 882
PB-882-12
PB-882-08
PB-882-11
PB-882-13
PB-882-09
PB-882-10
PB-882-14
PB-882-17
PB-882-15
PB-882-16
PB-882-18
PB-882-19
PB-882-20

PB 187

PB 883

Legend

Tank Group

- 04
- Previously Closed
- Associated Piping
- PESRM Soil Sample Location

0 50 100 Feet

1 inch = 50 feet

N

SAFETY FIRST

terraphase engineering

CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

Site Location and Sampling Map 056A (PB 882)

Figure 8

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For AST Closure Report\Figure 8 - 056A (PB 882).mxd 12/30/2022 Created by: JD Checked by: Initial Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

Photograph 1:

View of Tank 056A (PB 882) prior to demolition.

Photograph 2:

View of Tank 056A (PB 882) during demolition.

Photograph 3:

View of Tank 056A (PB 882) during demolition.

Photograph 4:

View of scrap piles and the concrete pad during demolition.

	Photograph 5: View of scrap piles during demolition.
	Photograph 6: View of the concrete pad following demolition.

Product Movement and Waste Disposal Documentation (Tank 056A)

NorthStar Contracting Group, Inc.

PES Project Load Ticket

#5120103

Load Ticket: 11801

Date: 05-18-21

Scrap

Sold to: Allegheny

Location: Tank 002

Carrier: Allegheny

Steel / Ferrous

- ☐ No. 1 P+S
- ☐ No. 2 Heavy Melt
- ☐ Cast Iron
- ☐ Mixed
- ☐ Pipe
- ☐ Light Iron
- ☐ Re-Bar
- ☒ Other Tank Plate

Non-Ferrous

- ☐ Insulated Copper Wire
- ☐ No. 1 Copper Wire
- ☐ Brass
- ☐ Aluminum
- ☐ Stainless, Grade
- ☐ Other Alloy, Grade
- ☐ Mixed
- ☐ Other:

Condition

- ☐ Prepared
- ☐ Unprepared
- ☐ Green Waste
- ☐ Concrete
- ☐ Masonry
- ☐ Mixed Masonry
- ☐ Wood Only
- ☐ Demo Debris (C&D)
- ☐ Dirt / Fill
- ☐ Sand Fill
- ☐ Crushed Stone
- ☐ Other:

Scale Ticket #:

Gross Weight: 62820lbs

Tare Weight: 41300lbs

Net Weight: 21520lbs

NorthStar Rep. Signature:

Received By:

Non-Haz / ACM / Special Waste

Activity Location:

Waste Stream

- ☐ C&D Demolition Debris
- ☐ Non-Friable ACM
- ☐ Friable ACM
- ☐ PB WWTP Sludge
- ☐ GP WWTP Sludge
- ☐ Characteristic Haz Waste (flammable D001, corrosive D002, reactive D003, toxicity D004 –D043)
- ☐ Process Haz Waste
- ☐ Demo Debris (C&D)
- ☐ Non-Haz Waste (Solid)
- ☐ Non-Haz Waste (Liquid)
- ☐ PCB (Non-TSCA)
- ☐ PCB (TSCA)

Disposal Facility:

Carrier:

Truck #: 260

Container #: 50

Manifest #:

Profile / Approval #:

Scale Info

Scale Ticket #:

Gross Weight:

Tare weight:

Net weight:

Net Kilogram Conversion (PCB Only):

NorthStar Rep. Signature:

HILCO REDEVELOPEMENT PARTNERS
3144 W. PASSYUNK AVE

PHILADELPHIA PA, 19145

Ticket #: 20027328
Date: 05/18/2021 7:10 AM
Phone: ( ) -
Fax: ( ) -

Customer: HILCO
HILCO

Order Number: 001
SCRAP REMOVAL
Tons: 15641.826
Loads: 1182

DT260-50 - TRUCK 260 W/ TRAILER 50
CARLAD - CARLA DAVILA

Remarks: SCRAP REMOVAL

Signature: _____

Material	Quantity	Price	Material $	Delivery $	Misc $	Tax $	Line Total $
SCRAP	11.16 tn						

Weight Information

Material	Gross	Tare	Net
SCRAP	62820.00	40500.00	22320.00

11801
THE
MONSTER

ABOVEGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

SECTION III. Site Assessment Information

Tank Registration # 057A (complete one sheet for EACH tank system and attach ALL laboratory sheets pertaining to that system)

Facility ID Number 51 - 33620

A. Provide depth of *BEDROCK* and *WATER* IF encountered during excavation or soil boring (write "N/A": if NOT encountered).

Bedrock N/A feet below land surface Water 15 feet below land surface

B. Provide Length of *PIPING* IF piping was closed-in-place (write "N/A" if NOT closed-in-place).

Length of piping N/A feet

C. TANK SYSTEM REMOVED FROM THE GROUND/SITE

1). Was obvious contamination observed while excavating, sampling or removing the tank system?

☒ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records ----→ Do not complete item C.2. below.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):_____

_____

_____

_____

_____ ----→ Complete item C.2. below.

2). Was contamination localized (within three feet of the tank system in every direction with no obvious water contamination)?

☐ YES ----→ Remove or remediate contaminated soil ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ NO ----→ Continue Interim Remedial Actions ----→ See end of this section for options on submission and maintenance of closure records.

D. TANK SYSTEM CLOSED-IN-PLACE OR CHANGED-IN-SERVICE

Was obvious contamination observed during sampling, boring or assessing water depths?

☐ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):_____

_____

_____

_____

Continue with corrective action ----→ See end of this section for options on submission and maintenance of closure records.

E. If the answer to C.1. is "no", the answer to C.2. is "yes" or the answer to D. is "no", confirmatory samples are required. Use the sample/analysis information sheet on page 10 of 11 to provide the information on confirmatory sampling and complete the diagram on Page 11 of 11.

Options for Submission and Maintenance of Closure Site Assessment Records

Records of the site assessment must be maintained for at least three years after completion of permanent closure or change-in-service in one of the following ways:

(a) By the owners and operators who took the tank system out of service;
(b) By the current owners and operators of the tank system site; or
(c) By mailing these records to the DEP regional office responsible for the county in which the tank is located if they cannot be maintained at the closed facility.

Where the results of the site assessment indicate that obvious, localized soil contamination was encountered and the analytical results of the confirmatory sampling show levels below the statewide standard/action levels, this closure report form (Sections I, II, and III) or some other acceptable site characterization report must be received by the Department within 180 days of verbally reporting the release.

Where the results of the site assessment indicate that no obvious contamination or obvious, localized contamination was encountered, but the analytical results of the confirmatory sampling show levels above the statewide standard/action levels, or where there is obvious, extensive contamination, Section 245.310(a)(8) of the Corrective Action Process (CAP) regulations requires that details of removal from service be included in the site characterization report. A copy of the completed closure report form should be submitted as part of the site characterization report to satisfy the requirements of Section 245.310(a)(8) of the CAP regulations.

I, Kevin Long , hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating to unsworn
(Print Name)
falsification to authorities) that I am the person who performed the site assessment activities associated with the closure of the above referenced storage tank system(s) and that the information provided by me in this closure report (Section III) is true, accurate and complete to the best of my knowledge and belief.

Kevin L. Long

Signature of Person Performing Site Assessment

2 / 1 / 2023
Date

Principal Consultant
Title of Person Performing Site Assessment

Terraphase Engineering, Inc.
Name of Company Performing Site Assessment

609-236-8171 x93
Telephone Number of Person Performing Site Assessment

ABOVEGROUND STORAGE TANK SYSTEM
CLOSURE REPORT FORM

Sample/Analysis Information
(Attachment for Section III.)

Facility ID Number 51 - 33620

Sample I.D. (See diagram)	Parameter	Analytical Method[1]		Media	Result (units)	Detection Limit (units)	Date Sample Taken	Date Sample Analyzed
See attached summary table							/ /	/ /
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[1] Where EPA Method 5035 is used, indicate sample collection option in the right-hand box of this column using the following codes:

P - Samples placed in a soil sample vial with a preservative present.
E - Samples collected and stored in a soil collection device which is airtight and affords little to no headspace.

N - Samples placed in soil sample vial without a preservative present.

Site Location and Sampling Map - Use this page or suitable facsimile to provide a large-scale map of the site where storage tank systems were closed. Scales between 1" = 10 and 1" = 100 feet frequently work well. Include the following information as each applies to the site: facility name and I.D., county, township or borough, property boundaries or area of interest, buildings, roads and streets with names or route numbers, utilities, location and ID number of storage tank systems removed including piping and dispensers, soil stockpile locations, excavations or other locations of product recovery, north arrow, approximate map scale and legend. Also, show depth and location of samples with sample ID numbers cross-referenced to the same ID numbers shown on Page 10 of 11.

Facility Name and ID: -

County:

Township/Borough: See attached Figure

Table 9 - 057A (PB 883)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-883-01	PB-883-01-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/14/2022	7/18/2022
PB-883-01	PB-883-01-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-01	PB-883-01-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	7/14/2022	7/16/2022
PB-883-01	PB-883-01-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/14/2022	7/16/2022
PB-883-01	PB-883-01-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-01	PB-883-01-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/14/2022	7/16/2022
PB-883-01	PB-883-01-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-01	PB-883-01-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/14/2022	7/16/2022
PB-883-01	PB-883-01-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-01	PB-883-01-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-01	PB-883-01-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/14/2022	7/18/2022
PB-883-01	PB-883-01-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-01	PB-883-01-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0021	7/14/2022	7/18/2022
PB-883-01	PB-883-01-SS01	3	3.5	Lead	SW6010D	Soil	7.61	11.4	7/14/2022	7/20/2022
PB-883-01	PB-883-01-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00052	7/14/2022	7/18/2022
PB-883-01	PB-883-01-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/14/2022	7/18/2022
PB-883-01	PB-883-01-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/14/2022	7/18/2022
PB-883-01	PB-883-01-SS01	3	3.5	Benzene	SW8260C	Soil	0.00026	0.00052	7/14/2022	7/18/2022
PB-883-01	PB-883-01-SS01	3	3.5	Cumene	SW8260C	Soil	0.00018	0.001	7/14/2022	7/18/2022
PB-883-01	PB-883-01-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/14/2022	7/18/2022
PB-883-01	PB-883-01-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.00032	0.0021	7/14/2022	7/18/2022
PB-883-02	PB-883-02-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/14/2022	7/19/2022
PB-883-02	PB-883-02-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	7/14/2022	7/16/2022
PB-883-02	PB-883-02-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/14/2022	7/16/2022
PB-883-02	PB-883-02-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-02	PB-883-02-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/14/2022	7/16/2022
PB-883-02	PB-883-02-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-02	PB-883-02-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/14/2022	7/16/2022
PB-883-02	PB-883-02-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-02	PB-883-02-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-02	PB-883-02-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-02	PB-883-02-SS01	3	3.5	Lead	SW6010D	Soil	6.88	2.35	7/14/2022	7/19/2022
PB-883-02	PB-883-02-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.0018	0.002	7/14/2022	7/19/2022
PB-883-02	PB-883-02-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/14/2022	7/19/2022
PB-883-02	PB-883-02-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	7/14/2022	7/19/2022
PB-883-02	PB-883-02-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00051	7/14/2022	7/19/2022
PB-883-02	PB-883-02-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/14/2022	7/19/2022
PB-883-02	PB-883-02-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/14/2022	7/19/2022
PB-883-02	PB-883-02-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00051	7/14/2022	7/19/2022
PB-883-02	PB-883-02-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/14/2022	7/19/2022
PB-883-02	PB-883-02-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/14/2022	7/19/2022
PB-883-02	PB-883-02-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-03	PB-883-03-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/14/2022	7/16/2022
PB-883-03	PB-883-03-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/14/2022	7/16/2022
PB-883-03	PB-883-03-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/14/2022	7/16/2022
PB-883-03	PB-883-03-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/14/2022	7/16/2022
PB-883-03	PB-883-03-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/14/2022	7/16/2022
PB-883-03	PB-883-03-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/14/2022	7/16/2022
PB-883-03	PB-883-03-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/14/2022	7/16/2022
PB-883-03	PB-883-03-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/14/2022	7/16/2022
PB-883-03	PB-883-03-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00082	7/14/2022	7/18/2022
PB-883-03	PB-883-03-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/14/2022	7/16/2022
PB-883-03	PB-883-03-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0016	7/14/2022	7/18/2022
PB-883-03	PB-883-03-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0016	7/14/2022	7/18/2022
PB-883-03	PB-883-03-SS01	3	3.5	Lead	SW6010D	Soil	5.82	4.41	7/14/2022	7/20/2022
PB-883-03	PB-883-03-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00041	7/14/2022	7/18/2022
PB-883-03	PB-883-03-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00082	7/14/2022	7/18/2022
PB-883-03	PB-883-03-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0016	7/14/2022	7/18/2022
PB-883-03	PB-883-03-SS01	3	3.5	Benzene	SW8260C	Soil	0.00041	0.00041	7/14/2022	7/18/2022
PB-883-03	PB-883-03-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00082	7/14/2022	7/18/2022
PB-883-03	PB-883-03-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00082	7/14/2022	7/18/2022
PB-883-03	PB-883-03-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.002	0.0016	7/14/2022	7/18/2022
PB-883-03	PB-883-03-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/14/2022	7/16/2022
PB-883-04	PB-883-04-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.00098	7/14/2022	7/18/2022
PB-883-04	PB-883-04-SS01	4	4.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/14/2022	7/21/2022
PB-883-04	PB-883-04-SS01	4	4.5	Naphthalene	SW8270D	Soil	ND	0.19	7/14/2022	7/21/2022
PB-883-04	PB-883-04-SS01	4	4.5	Fluorene	SW8270D	Soil	ND	0.19	7/14/2022	7/21/2022
PB-883-04	PB-883-04-SS01	4	4.5	Chrysene	SW8270D	Soil	ND	0.12	7/14/2022	7/21/2022
PB-883-04	PB-883-04-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/14/2022	7/21/2022
PB-883-04	PB-883-04-SS01	4	4.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/14/2022	7/21/2022
PB-883-04	PB-883-04-SS01	4	4.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/14/2022	7/21/2022
PB-883-04	PB-883-04-SS01	4	4.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/14/2022	7/21/2022
PB-883-04	PB-883-04-SS01	4	4.5	Pyrene	SW8270D	Soil	ND	0.12	7/14/2022	7/21/2022
PB-883-04	PB-883-04-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/14/2022	7/18/2022
PB-883-04	PB-883-04-SS01	4	4.5	Anthracene	SW8270D	Soil	ND	0.12	7/14/2022	7/21/2022
PB-883-04	PB-883-04-SS01	4	4.5	Lead	SW6010D	Soil	6.16	4.5	7/14/2022	7/20/2022
PB-883-04	PB-883-04-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/14/2022	7/18/2022
PB-883-04	PB-883-04-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00049	7/14/2022	7/18/2022
PB-883-04	PB-883-04-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00098	7/14/2022	7/18/2022
PB-883-04	PB-883-04-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/14/2022	7/18/2022
PB-883-04	PB-883-04-SS01	4	4.5	Benzene	SW8260C	Soil	ND	0.00049	7/14/2022	7/18/2022
PB-883-04	PB-883-04-SS01	4	4.5	Cumene	SW8260C	Soil	ND	0.00098	7/14/2022	7/18/2022
PB-883-04	PB-883-04-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	ND	0.00098	7/14/2022	7/18/2022
PB-883-04	PB-883-04-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/14/2022	7/18/2022
PB-883-05	PB-883-05-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00091	7/14/2022	7/18/2022
PB-883-05	PB-883-05-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/14/2022	7/16/2022
PB-883-05	PB-883-05-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/14/2022	7/16/2022
PB-883-05	PB-883-05-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-05	PB-883-05-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/14/2022	7/16/2022
PB-883-05	PB-883-05-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-05	PB-883-05-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/14/2022	7/16/2022
PB-883-05	PB-883-05-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-05	PB-883-05-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-05	PB-883-05-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-05	PB-883-05-SS01	3	3.5	Lead	SW6010D	Soil	6.72	2.24	7/14/2022	7/19/2022
PB-883-05	PB-883-05-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.0042	0.0018	7/14/2022	7/18/2022
PB-883-05	PB-883-05-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00091	7/14/2022	7/18/2022
PB-883-05	PB-883-05-SS01	3	3.5	Cumene	SW8260C	Soil	0.0002	0.00091	7/14/2022	7/18/2022
PB-883-05	PB-883-05-SS01	3	3.5	Benzene	SW8260C	Soil	0.0003	0.00045	7/14/2022	7/18/2022
PB-883-05	PB-883-05-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.00084	0.0018	7/14/2022	7/18/2022
PB-883-05	PB-883-05-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00091	7/14/2022	7/18/2022
PB-883-05	PB-883-05-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00045	7/14/2022	7/18/2022
PB-883-05	PB-883-05-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.00034	0.0018	7/14/2022	7/18/2022
PB-883-05	PB-883-05-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-05	PB-883-05-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/14/2022	7/18/2022
PB-883-06	PB-883-06-SS01	4	4.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022

Table 9 - 057A (PB 883)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-883-06	PB-883-06-SS01	4	4.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/14/2022	7/16/2022
PB-883-06	PB-883-06-SS01	4	4.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-06	PB-883-06-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/14/2022	7/16/2022
PB-883-06	PB-883-06-SS01	4	4.5	Chrysene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-06	PB-883-06-SS01	4	4.5	Fluorene	SW8270D	Soil	ND	0.19	7/14/2022	7/16/2022
PB-883-06	PB-883-06-SS01	4	4.5	Naphthalene	SW8270D	Soil	ND	0.19	7/14/2022	7/16/2022
PB-883-06	PB-883-06-SS01	4	4.5	Pyrene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-06	PB-883-06-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.001	7/14/2022	7/19/2022
PB-883-06	PB-883-06-SS01	4	4.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-06	PB-883-06-SS01	4	4.5	Lead	SW6010D	Soil	6.14	2.28	7/14/2022	7/19/2022
PB-883-06	PB-883-06-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	0.00048	0.0021	7/14/2022	7/19/2022
PB-883-06	PB-883-06-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/14/2022	7/19/2022
PB-883-06	PB-883-06-SS01	4	4.5	Cumene	SW8260C	Soil	ND	0.001	7/14/2022	7/19/2022
PB-883-06	PB-883-06-SS01	4	4.5	Benzene	SW8260C	Soil	ND	0.00053	7/14/2022	7/19/2022
PB-883-06	PB-883-06-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/14/2022	7/19/2022
PB-883-06	PB-883-06-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/14/2022	7/19/2022
PB-883-06	PB-883-06-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00053	7/14/2022	7/19/2022
PB-883-06	PB-883-06-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/14/2022	7/19/2022
PB-883-06	PB-883-06-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	ND	0.0021	7/14/2022	7/19/2022
PB-883-06	PB-883-06-SS01	4	4.5	Anthracene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-07	PB-883-07-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-07	PB-883-07-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-07	PB-883-07-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/14/2022	7/16/2022
PB-883-07	PB-883-07-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-07	PB-883-07-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/14/2022	7/16/2022
PB-883-07	PB-883-07-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-07	PB-883-07-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/14/2022	7/16/2022
PB-883-07	PB-883-07-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	7/14/2022	7/16/2022
PB-883-07	PB-883-07-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/14/2022	7/19/2022
PB-883-07	PB-883-07-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-07	PB-883-07-SS01	3	3.5	Lead	SW6010D	Soil	13.9	2.29	7/14/2022	7/19/2022
PB-883-07	PB-883-07-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0023	7/14/2022	7/19/2022
PB-883-07	PB-883-07-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-07	PB-883-07-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.00041	0.0023	7/14/2022	7/19/2022
PB-883-07	PB-883-07-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00056	7/14/2022	7/19/2022
PB-883-07	PB-883-07-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/14/2022	7/19/2022
PB-883-07	PB-883-07-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.00025	0.0023	7/14/2022	7/19/2022
PB-883-07	PB-883-07-SS01	3	3.5	Benzene	SW8260C	Soil	0.00026	0.00056	7/14/2022	7/19/2022
PB-883-07	PB-883-07-SS01	3	3.5	Cumene	SW8260C	Soil	0.00021	0.0011	7/14/2022	7/19/2022
PB-883-07	PB-883-07-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/14/2022	7/19/2022
PB-883-07	PB-883-07-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.0016	0.0023	7/14/2022	7/19/2022
PB-883-08	PB-883-08-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	12/8/2021	12/19/2021
PB-883-08	PB-883-08-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-08	PB-883-08-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	12/8/2021	12/20/2021
PB-883-08	PB-883-08-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	12/8/2021	12/20/2021
PB-883-08	PB-883-08-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-08	PB-883-08-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	12/8/2021	12/20/2021
PB-883-08	PB-883-08-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-08	PB-883-08-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/8/2021	12/20/2021
PB-883-08	PB-883-08-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-08	PB-883-08-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-08	PB-883-08-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	12/8/2021	12/19/2021
PB-883-08	PB-883-08-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-08	PB-883-08-SS01	3	3.5	Lead	SW6010D	Soil	12.8	2.48	12/8/2021	12/22/2021
PB-883-08	PB-883-08-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	12/8/2021	12/19/2021
PB-883-08	PB-883-08-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00054	12/8/2021	12/19/2021
PB-883-08	PB-883-08-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	12/8/2021	12/19/2021
PB-883-08	PB-883-08-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	12/8/2021	12/19/2021
PB-883-08	PB-883-08-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00054	12/8/2021	12/19/2021
PB-883-08	PB-883-08-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	12/8/2021	12/19/2021
PB-883-08	PB-883-08-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	12/8/2021	12/19/2021
PB-883-08	PB-883-08-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	12/8/2021	12/19/2021
PB-883-09	PB-883-09-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.001	12/8/2021	12/19/2021
PB-883-09	PB-883-09-SS01	4	4.5	Phenanthrene	SW8270D	Soil	ND	0.1	12/8/2021	12/20/2021
PB-883-09	PB-883-09-SS01	4	4.5	Naphthalene	SW8270D	Soil	ND	0.17	12/8/2021	12/20/2021
PB-883-09	PB-883-09-SS01	4	4.5	Fluorene	SW8270D	Soil	ND	0.17	12/8/2021	12/20/2021
PB-883-09	PB-883-09-SS01	4	4.5	Chrysene	SW8270D	Soil	ND	0.1	12/8/2021	12/20/2021
PB-883-09	PB-883-09-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	12/8/2021	12/20/2021
PB-883-09	PB-883-09-SS01	4	4.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	12/8/2021	12/20/2021
PB-883-09	PB-883-09-SS01	4	4.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	12/8/2021	12/20/2021
PB-883-09	PB-883-09-SS01	4	4.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	12/8/2021	12/20/2021
PB-883-09	PB-883-09-SS01	4	4.5	Pyrene	SW8270D	Soil	ND	0.1	12/8/2021	12/20/2021
PB-883-09	PB-883-09-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	12/8/2021	12/19/2021
PB-883-09	PB-883-09-SS01	4	4.5	Anthracene	SW8270D	Soil	ND	0.1	12/8/2021	12/20/2021
PB-883-09	PB-883-09-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	ND	0.002	12/8/2021	12/19/2021
PB-883-09	PB-883-09-SS01	4	4.5	Lead	SW6010D	Soil	2.18	2.03	12/8/2021	12/22/2021
PB-883-09	PB-883-09-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0005	12/8/2021	12/19/2021
PB-883-09	PB-883-09-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	12/8/2021	12/19/2021
PB-883-09	PB-883-09-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	12/8/2021	12/19/2021
PB-883-09	PB-883-09-SS01	4	4.5	Benzene	SW8260C	Soil	ND	0.0005	12/8/2021	12/19/2021
PB-883-09	PB-883-09-SS01	4	4.5	Cumene	SW8260C	Soil	ND	0.001	12/8/2021	12/19/2021
PB-883-09	PB-883-09-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	12/8/2021	12/19/2021
PB-883-09	PB-883-09-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	12/8/2021	12/19/2021
PB-883-10	PB-883-10-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00089	12/8/2021	12/19/2021
PB-883-10	PB-883-10-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	12/8/2021	12/20/2021
PB-883-10	PB-883-10-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	12/8/2021	12/20/2021
PB-883-10	PB-883-10-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	12/8/2021	12/20/2021
PB-883-10	PB-883-10-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	12/8/2021	12/20/2021
PB-883-10	PB-883-10-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	12/8/2021	12/20/2021
PB-883-10	PB-883-10-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	12/8/2021	12/20/2021
PB-883-10	PB-883-10-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	12/8/2021	12/20/2021
PB-883-10	PB-883-10-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	12/8/2021	12/20/2021
PB-883-10	PB-883-10-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	12/8/2021	12/20/2021
PB-883-10	PB-883-10-SS01	3	3.5	Lead	SW6010D	Soil	4.67	2.14	12/8/2021	12/22/2021
PB-883-10	PB-883-10-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	12/8/2021	12/19/2021
PB-883-10	PB-883-10-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00089	12/8/2021	12/19/2021
PB-883-10	PB-883-10-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00089	12/8/2021	12/19/2021
PB-883-10	PB-883-10-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00044	12/8/2021	12/19/2021
PB-883-10	PB-883-10-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	12/8/2021	12/19/2021
PB-883-10	PB-883-10-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00089	12/8/2021	12/19/2021
PB-883-10	PB-883-10-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00044	12/8/2021	12/19/2021
PB-883-10	PB-883-10-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	12/8/2021	12/19/2021
PB-883-10	PB-883-10-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	12/8/2021	12/19/2021
PB-883-10	PB-883-10-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	12/8/2021	12/20/2021
PB-883-11	PB-883-11-SS01	3.5	4	Pyrene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-11	PB-883-11-SS01	3.5	4	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021

Table 9 - 057A (PB 883)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-883-11	PB-883-11-SS01	3.5	4	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/8/2021	12/20/2021
PB-883-11	PB-883-11-SS01	3.5	4	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-11	PB-883-11-SS01	3.5	4	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	12/8/2021	12/20/2021
PB-883-11	PB-883-11-SS01	3.5	4	Chrysene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-11	PB-883-11-SS01	3.5	4	Fluorene	SW8270D	Soil	ND	0.19	12/8/2021	12/20/2021
PB-883-11	PB-883-11-SS01	3.5	4	Naphthalene	SW8270D	Soil	ND	0.19	12/8/2021	12/20/2021
PB-883-11	PB-883-11-SS01	3.5	4	Toluene	SW8260C	Soil	ND	0.00095	12/8/2021	12/19/2021
PB-883-11	PB-883-11-SS01	3.5	4	Phenanthrene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-11	PB-883-11-SS01	3.5	4	Lead	SW6010D	Soil	4.25	2.32	12/8/2021	12/22/2021
PB-883-11	PB-883-11-SS01	3.5	4	Xylenes (total)	SW8260C	Soil	ND	0.0019	12/8/2021	12/19/2021
PB-883-11	PB-883-11-SS01	3.5	4	Anthracene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-11	PB-883-11-SS01	3.5	4	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0019	12/8/2021	12/19/2021
PB-883-11	PB-883-11-SS01	3.5	4	1,2-Dibromoethane	SW8260C	Soil	ND	0.00048	12/8/2021	12/19/2021
PB-883-11	PB-883-11-SS01	3.5	4	1,2-Dichloroethane	SW8260C	Soil	ND	0.00095	12/8/2021	12/19/2021
PB-883-11	PB-883-11-SS01	3.5	4	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0019	12/8/2021	12/19/2021
PB-883-11	PB-883-11-SS01	3.5	4	Benzene	SW8260C	Soil	ND	0.00048	12/8/2021	12/19/2021
PB-883-11	PB-883-11-SS01	3.5	4	Cumene	SW8260C	Soil	ND	0.00095	12/8/2021	12/19/2021
PB-883-11	PB-883-11-SS01	3.5	4	Ethyl Benzene	SW8260C	Soil	ND	0.00095	12/8/2021	12/19/2021
PB-883-11	PB-883-11-SS01	3.5	4	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0019	12/8/2021	12/19/2021
PB-883-12	PB-883-12-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	12/8/2021	12/19/2021
PB-883-12	PB-883-12-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.028	0.12	12/8/2021	12/20/2021
PB-883-12	PB-883-12-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	12/8/2021	12/20/2021
PB-883-12	PB-883-12-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	12/8/2021	12/20/2021
PB-883-12	PB-883-12-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-12	PB-883-12-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	12/8/2021	12/20/2021
PB-883-12	PB-883-12-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-12	PB-883-12-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/8/2021	12/20/2021
PB-883-12	PB-883-12-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-12	PB-883-12-SS01	3	3.5	Pyrene	SW8270D	Soil	0.021	0.12	12/8/2021	12/20/2021
PB-883-12	PB-883-12-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0023	12/8/2021	12/19/2021
PB-883-12	PB-883-12-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-12	PB-883-12-SS01	3	3.5	Lead	SW6010D	Soil	11	2.27	12/8/2021	12/22/2021
PB-883-12	PB-883-12-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0023	12/8/2021	12/19/2021
PB-883-12	PB-883-12-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00057	12/8/2021	12/19/2021
PB-883-12	PB-883-12-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	12/8/2021	12/19/2021
PB-883-12	PB-883-12-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0023	12/8/2021	12/19/2021
PB-883-12	PB-883-12-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00057	12/8/2021	12/19/2021
PB-883-12	PB-883-12-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	12/8/2021	12/19/2021
PB-883-12	PB-883-12-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	12/8/2021	12/19/2021
PB-883-12	PB-883-12-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0023	12/8/2021	12/19/2021
PB-883-13	PB-883-13-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.00096	12/8/2021	12/19/2021
PB-883-13	PB-883-13-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.2	12/8/2021	12/20/2021
PB-883-13	PB-883-13-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.2	12/8/2021	12/20/2021
PB-883-13	PB-883-13-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-13	PB-883-13-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	12/8/2021	12/20/2021
PB-883-13	PB-883-13-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-13	PB-883-13-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/8/2021	12/20/2021
PB-883-13	PB-883-13-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-13	PB-883-13-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-13	PB-883-13-SS01	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-13	PB-883-13-SS01	4.5	5	Lead	SW6010D	Soil	6.72	2.44	12/8/2021	12/22/2021
PB-883-13	PB-883-13-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0019	12/8/2021	12/19/2021
PB-883-13	PB-883-13-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	ND	0.00096	12/8/2021	12/19/2021
PB-883-13	PB-883-13-SS01	4.5	5	Cumene	SW8260C	Soil	ND	0.00096	12/8/2021	12/19/2021
PB-883-13	PB-883-13-SS01	4.5	5	Benzene	SW8260C	Soil	ND	0.00048	12/8/2021	12/19/2021
PB-883-13	PB-883-13-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0019	12/8/2021	12/19/2021
PB-883-13	PB-883-13-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00096	12/8/2021	12/19/2021
PB-883-13	PB-883-13-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00048	12/8/2021	12/19/2021
PB-883-13	PB-883-13-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0019	12/8/2021	12/19/2021
PB-883-13	PB-883-13-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-13	PB-883-13-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.0019	12/8/2021	12/19/2021
PB-883-14	PB-883-14-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-14	PB-883-14-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/8/2021	12/20/2021
PB-883-14	PB-883-14-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-14	PB-883-14-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	12/8/2021	12/20/2021
PB-883-14	PB-883-14-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-14	PB-883-14-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.21	12/8/2021	12/20/2021
PB-883-14	PB-883-14-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.21	12/8/2021	12/20/2021
PB-883-14	PB-883-14-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-14	PB-883-14-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	12/8/2021	12/19/2021
PB-883-14	PB-883-14-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-14	PB-883-14-SS01	3	3.5	Lead	SW6010D	Soil	5.14	2.35	12/8/2021	12/22/2021
PB-883-14	PB-883-14-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0025	12/8/2021	12/19/2021
PB-883-14	PB-883-14-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	12/8/2021	12/19/2021
PB-883-14	PB-883-14-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	12/8/2021	12/19/2021
PB-883-14	PB-883-14-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00062	12/8/2021	12/19/2021
PB-883-14	PB-883-14-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0025	12/8/2021	12/19/2021
PB-883-14	PB-883-14-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	12/8/2021	12/19/2021
PB-883-14	PB-883-14-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00062	12/8/2021	12/19/2021
PB-883-14	PB-883-14-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0025	12/8/2021	12/19/2021
PB-883-14	PB-883-14-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0025	12/8/2021	12/19/2021
PB-883-14	PB-883-14-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-15	PB-883-15-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-15	PB-883-15-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/14/2022	7/16/2022
PB-883-15	PB-883-15-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-15	PB-883-15-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/14/2022	7/16/2022
PB-883-15	PB-883-15-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-15	PB-883-15-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/14/2022	7/16/2022
PB-883-15	PB-883-15-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	7/14/2022	7/16/2022
PB-883-15	PB-883-15-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-15	PB-883-15-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-15	PB-883-15-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-15	PB-883-15-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/14/2022	7/19/2022
PB-883-15	PB-883-15-SS01	3	3.5	Lead	SW6010D	Soil	8.06	2.27	7/14/2022	7/19/2022
PB-883-15	PB-883-15-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00048	7/14/2022	7/19/2022
PB-883-15	PB-883-15-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00095	7/14/2022	7/19/2022
PB-883-15	PB-883-15-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/14/2022	7/19/2022
PB-883-15	PB-883-15-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00095	7/14/2022	7/19/2022
PB-883-15	PB-883-15-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00095	7/14/2022	7/19/2022
PB-883-15	PB-883-15-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.0018	0.0019	7/14/2022	7/19/2022
PB-883-15	PB-883-15-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00095	7/14/2022	7/19/2022
PB-883-15	PB-883-15-SS01	3	3.5	Benzene	SW8260C	Soil	0.00025	0.00048	7/14/2022	7/19/2022
PB-883-15	PB-883-15-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.00125	0.0019	7/14/2022	7/19/2022
PB-883-16	PB-883-16-SS01	3	3.5	Pyrene	SW8270D	Soil	0.36	0.59	12/8/2021	12/22/2021
PB-883-16	PB-883-16-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.79	12/8/2021	12/22/2021
PB-883-16	PB-883-16-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.59	12/8/2021	12/22/2021

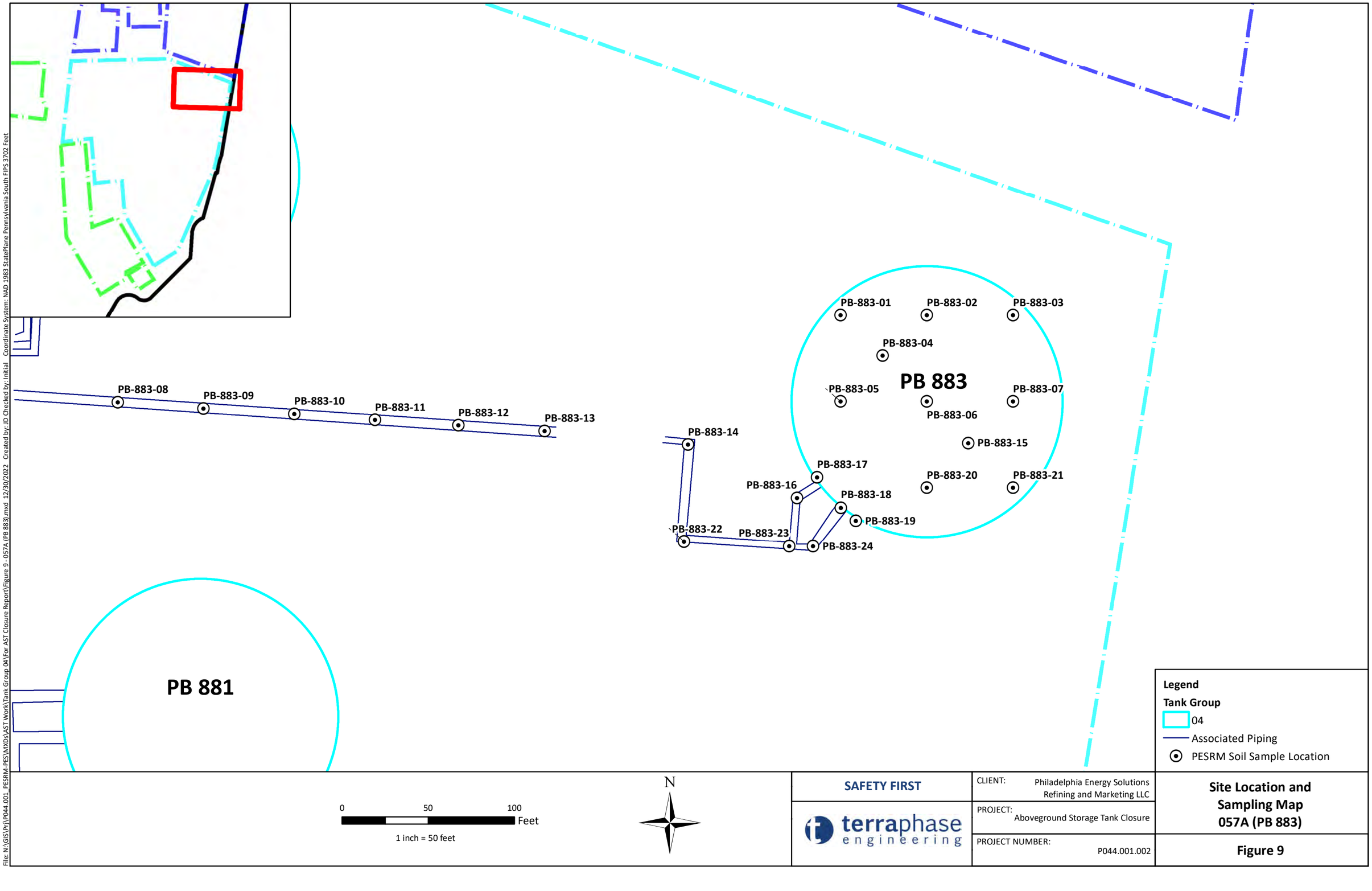
Table 9 - 057A (PB 883)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-883-16	PB-883-16-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.79	12/8/2021	12/22/2021
PB-883-16	PB-883-16-SS01	3	3.5	Chrysene	SW8270D	Soil	0.43	0.59	12/8/2021	12/22/2021
PB-883-16	PB-883-16-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.99	12/8/2021	12/22/2021
PB-883-16	PB-883-16-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.59	12/8/2021	12/22/2021
PB-883-16	PB-883-16-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.59	12/8/2021	12/22/2021
PB-883-16	PB-883-16-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	12/8/2021	12/19/2021
PB-883-16	PB-883-16-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.99	12/8/2021	12/22/2021
PB-883-16	PB-883-16-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00056	12/8/2021	12/19/2021
PB-883-16	PB-883-16-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.59	12/8/2021	12/22/2021
PB-883-16	PB-883-16-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	12/8/2021	12/19/2021
PB-883-16	PB-883-16-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	12/8/2021	12/19/2021
PB-883-16	PB-883-16-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	12/8/2021	12/19/2021
PB-883-16	PB-883-16-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	12/8/2021	12/19/2021
PB-883-16	PB-883-16-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00056	12/8/2021	12/19/2021
PB-883-16	PB-883-16-SS01	3	3.5	Cumene	SW8260C	Soil	0.00019	0.0011	12/8/2021	12/19/2021
PB-883-16	PB-883-16-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	12/8/2021	12/19/2021
PB-883-16	PB-883-16-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	12/8/2021	12/19/2021
PB-883-16	PB-883-16-SS01	3	3.5	Lead	SW6010D	Soil	8.62	2.28	12/8/2021	12/22/2021
PB-883-17	PB-883-17-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0013	12/8/2021	12/20/2021
PB-883-17	PB-883-17-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.13	0.54	12/8/2021	12/21/2021
PB-883-17	PB-883-17-SS01	3	3.5	Pyrene	SW8270D	Soil	0.2	0.54	12/8/2021	12/21/2021
PB-883-17	PB-883-17-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.43	0.54	12/8/2021	12/21/2021
PB-883-17	PB-883-17-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.9	12/8/2021	12/21/2021
PB-883-17	PB-883-17-SS01	3	3.5	Fluorene	SW8270D	Soil	0.29	0.9	12/8/2021	12/21/2021
PB-883-17	PB-883-17-SS01	3	3.5	Chrysene	SW8270D	Soil	0.36	0.54	12/8/2021	12/21/2021
PB-883-17	PB-883-17-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.72	12/8/2021	12/21/2021
PB-883-17	PB-883-17-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.54	12/8/2021	12/21/2021
PB-883-17	PB-883-17-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.72	12/8/2021	12/21/2021
PB-883-17	PB-883-17-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00064	12/8/2021	12/20/2021
PB-883-17	PB-883-17-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.54	12/8/2021	12/21/2021
PB-883-17	PB-883-17-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0026	12/8/2021	12/20/2021
PB-883-17	PB-883-17-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0026	12/8/2021	12/20/2021
PB-883-17	PB-883-17-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0013	12/8/2021	12/20/2021
PB-883-17	PB-883-17-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0026	12/8/2021	12/20/2021
PB-883-17	PB-883-17-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00064	12/8/2021	12/20/2021
PB-883-17	PB-883-17-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0013	12/8/2021	12/20/2021
PB-883-17	PB-883-17-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0013	12/8/2021	12/20/2021
PB-883-17	PB-883-17-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0026	12/8/2021	12/20/2021
PB-883-17	PB-883-17-SS01	3	3.5	Lead	SW6010D	Soil	7.06	4.2	12/8/2021	12/22/2021
PB-883-18	PB-883-18-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.064	12/8/2021	12/22/2021
PB-883-18	PB-883-18-SS01	3	3.5	Pyrene	SW8270D	Soil	0.19	0.54	12/8/2021	12/21/2021
PB-883-18	PB-883-18-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.91	12/8/2021	12/21/2021
PB-883-18	PB-883-18-SS01	3	3.5	Fluorene	SW8270D	Soil	0.25	0.91	12/8/2021	12/21/2021
PB-883-18	PB-883-18-SS01	3	3.5	Chrysene	SW8270D	Soil	0.37	0.54	12/8/2021	12/21/2021
PB-883-18	PB-883-18-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.72	12/8/2021	12/21/2021
PB-883-18	PB-883-18-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.54	12/8/2021	12/21/2021
PB-883-18	PB-883-18-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.72	12/8/2021	12/21/2021
PB-883-18	PB-883-18-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.54	12/8/2021	12/21/2021
PB-883-18	PB-883-18-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.52	0.54	12/8/2021	12/21/2021
PB-883-18	PB-883-18-SS01	3	3.5	Lead	SW6010D	Soil	6.49	4.24	12/8/2021	12/22/2021
PB-883-18	PB-883-18-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.13	12/8/2021	12/22/2021
PB-883-18	PB-883-18-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.064	12/8/2021	12/22/2021
PB-883-18	PB-883-18-SS01	3	3.5	Cumene	SW8260C	Soil	0.82	0.064	12/8/2021	12/22/2021
PB-883-18	PB-883-18-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.032	12/8/2021	12/22/2021
PB-883-18	PB-883-18-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.13	12/8/2021	12/22/2021
PB-883-18	PB-883-18-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.064	12/8/2021	12/22/2021
PB-883-18	PB-883-18-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.032	12/8/2021	12/22/2021
PB-883-18	PB-883-18-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.04	0.13	12/8/2021	12/22/2021
PB-883-18	PB-883-18-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.109	0.13	12/8/2021	12/22/2021
PB-883-18	PB-883-18-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.54	12/8/2021	12/21/2021
PB-883-19	PB-883-19-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	Chrysene	SW8270D	Soil	0.027	0.1	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.18	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.18	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.1	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.1	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.001	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0005	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.002	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	Benzene	SW8260C	Soil	ND	0.0005	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	Cumene	SW8260C	Soil	ND	0.001	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	ND	0.001	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.1	12/8/2021	12/20/2021
PB-883-19	PB-883-19-SS01	4.5	5	Lead	SW6010D	Soil	7.75	4.24	12/8/2021	12/22/2021
PB-883-20	PB-883-20-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00097	7/14/2022	7/19/2022
PB-883-20	PB-883-20-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-20	PB-883-20-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	7/14/2022	7/16/2022
PB-883-20	PB-883-20-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	7/14/2022	7/16/2022
PB-883-20	PB-883-20-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-20	PB-883-20-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/14/2022	7/16/2022
PB-883-20	PB-883-20-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-20	PB-883-20-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/14/2022	7/16/2022
PB-883-20	PB-883-20-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-20	PB-883-20-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-20	PB-883-20-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.00089	0.0019	7/14/2022	7/19/2022
PB-883-20	PB-883-20-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/14/2022	7/16/2022
PB-883-20	PB-883-20-SS01	3	3.5	Lead	SW6010D	Soil	7.73	2.28	7/14/2022	7/19/2022
PB-883-20	PB-883-20-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0019	7/14/2022	7/19/2022
PB-883-20	PB-883-20-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00048	7/14/2022	7/19/2022
PB-883-20	PB-883-20-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00097	7/14/2022	7/19/2022
PB-883-20	PB-883-20-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.00048	0.0019	7/14/2022	7/19/2022
PB-883-20	PB-883-20-SS01	3	3.5	Benzene	SW8260C	Soil	0.00045	0.00048	7/14/2022	7/19/2022
PB-883-20	PB-883-20-SS01	3	3.5	Cumene	SW8260C	Soil	0.00029	0.00097	7/14/2022	7/19/2022
PB-883-20	PB-883-20-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00097	7/14/2022	7/19/2022
PB-883-20	PB-883-20-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.0051	0.0019	7/14/2022	7/19/2022
PB-883-21	PB-883-21-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00091	7/14/2022	7/19/2022
PB-883-21	PB-883-21-SS01	3	3.5	Naphthalene	SW8270D	Soil	3	0.18	7/14/2022	7/16/2022
PB-883-21	PB-883-21-SS01	3	3.5	Fluorene	SW8270D	Soil	1.2	0.18	7/14/2022	7/16/2022
PB-883-21	PB-883-21-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/14/2022	7/16/2022

Table 9 - 057A (PB 883)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-883-21	PB-883-21-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/14/2022	7/16/2022
PB-883-21	PB-883-21-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/14/2022	7/16/2022
PB-883-21	PB-883-21-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/14/2022	7/16/2022
PB-883-21	PB-883-21-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/14/2022	7/16/2022
PB-883-21	PB-883-21-SS01	3	3.5	Pyrene	SW8270D	Soil	0.23	0.11	7/14/2022	7/16/2022
PB-883-21	PB-883-21-SS01	3	3.5	Phenanthrene	SW8270D	Soil	3.7	0.11	7/14/2022	7/16/2022
PB-883-21	PB-883-21-SS01	3	3.5	Lead	SW6010D	Soil	12.6	10.6	7/14/2022	7/20/2022
PB-883-21	PB-883-21-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/14/2022	7/19/2022
PB-883-21	PB-883-21-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	0.00034	0.00091	7/14/2022	7/19/2022
PB-883-21	PB-883-21-SS01	3	3.5	Cumene	SW8260C	Soil	0.00042	0.00091	7/14/2022	7/19/2022
PB-883-21	PB-883-21-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00046	7/14/2022	7/19/2022
PB-883-21	PB-883-21-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.0032	0.0018	7/14/2022	7/19/2022
PB-883-21	PB-883-21-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00091	7/14/2022	7/19/2022
PB-883-21	PB-883-21-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00046	7/14/2022	7/19/2022
PB-883-21	PB-883-21-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.0097	0.0018	7/14/2022	7/19/2022
PB-883-21	PB-883-21-SS01	3	3.5	Anthracene	SW8270D	Soil	0.74	0.11	7/14/2022	7/16/2022
PB-883-21	PB-883-21-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.0023	0.0018	7/14/2022	7/19/2022
PB-883-22	PB-883-22-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-22	PB-883-22-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	12/8/2021	12/20/2021
PB-883-22	PB-883-22-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-22	PB-883-22-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	12/8/2021	12/20/2021
PB-883-22	PB-883-22-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-22	PB-883-22-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	12/8/2021	12/20/2021
PB-883-22	PB-883-22-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	12/8/2021	12/20/2021
PB-883-22	PB-883-22-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-22	PB-883-22-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	12/8/2021	12/19/2021
PB-883-22	PB-883-22-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-22	PB-883-22-SS01	3	3.5	Lead	SW6010D	Soil	4.03	2.25	12/8/2021	12/22/2021
PB-883-22	PB-883-22-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0021	12/8/2021	12/19/2021
PB-883-22	PB-883-22-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	12/8/2021	12/19/2021
PB-883-22	PB-883-22-SS01	3	3.5	Cumene	SW8260C	Soil	0.00024	0.001	12/8/2021	12/19/2021
PB-883-22	PB-883-22-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00052	12/8/2021	12/19/2021
PB-883-22	PB-883-22-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0021	12/8/2021	12/19/2021
PB-883-22	PB-883-22-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	12/8/2021	12/19/2021
PB-883-22	PB-883-22-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00052	12/8/2021	12/19/2021
PB-883-22	PB-883-22-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0021	12/8/2021	12/19/2021
PB-883-22	PB-883-22-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0021	12/8/2021	7/19/2022
PB-883-22	PB-883-22-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-23	PB-883-23-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/8/2021	12/20/2021
PB-883-23	PB-883-23-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-23	PB-883-23-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	12/8/2021	12/20/2021
PB-883-23	PB-883-23-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-23	PB-883-23-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.2	12/8/2021	12/20/2021
PB-883-23	PB-883-23-SS01	4.5	5	Naphthalene	SW8270D	Soil	ND	0.2	12/8/2021	12/20/2021
PB-883-23	PB-883-23-SS01	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-23	PB-883-23-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-23	PB-883-23-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.0015	12/8/2021	12/19/2021
PB-883-23	PB-883-23-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-23	PB-883-23-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00074	12/8/2021	12/19/2021
PB-883-23	PB-883-23-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.003	12/8/2021	7/19/2022
PB-883-23	PB-883-23-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.003	12/8/2021	12/19/2021
PB-883-23	PB-883-23-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0015	12/8/2021	12/19/2021
PB-883-23	PB-883-23-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.003	12/8/2021	12/19/2021
PB-883-23	PB-883-23-SS01	4.5	5	Benzene	SW8260C	Soil	ND	0.00074	12/8/2021	12/19/2021
PB-883-23	PB-883-23-SS01	4.5	5	Cumene	SW8260C	Soil	ND	0.0015	12/8/2021	12/19/2021
PB-883-23	PB-883-23-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	ND	0.0015	12/8/2021	12/19/2021
PB-883-23	PB-883-23-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.003	12/8/2021	12/19/2021
PB-883-23	PB-883-23-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-23	PB-883-23-SS01	4.5	5	Lead	SW6010D	Soil	4.64	2.26	12/8/2021	12/22/2021
PB-883-24	PB-883-24-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	12/8/2021	12/19/2021
PB-883-24	PB-883-24-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-24	PB-883-24-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	12/8/2021	12/20/2021
PB-883-24	PB-883-24-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	12/8/2021	12/20/2021
PB-883-24	PB-883-24-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-24	PB-883-24-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	12/8/2021	12/20/2021
PB-883-24	PB-883-24-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-24	PB-883-24-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/8/2021	12/20/2021
PB-883-24	PB-883-24-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-24	PB-883-24-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-24	PB-883-24-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	12/8/2021	12/19/2021
PB-883-24	PB-883-24-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/8/2021	12/20/2021
PB-883-24	PB-883-24-SS01	3	3.5	Lead	SW6010D	Soil	4.46	2.27	12/8/2021	12/22/2021
PB-883-24	PB-883-24-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	12/8/2021	7/19/2022
PB-883-24	PB-883-24-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00051	12/8/2021	12/19/2021
PB-883-24	PB-883-24-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	12/8/2021	12/19/2021
PB-883-24	PB-883-24-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	12/8/2021	12/19/2021
PB-883-24	PB-883-24-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00051	12/8/2021	12/19/2021
PB-883-24	PB-883-24-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	12/8/2021	12/19/2021
PB-883-24	PB-883-24-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	12/8/2021	12/19/2021
PB-883-24	PB-883-24-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	12/8/2021	12/19/2021

Notes:
SS -- Soil Sample.



SAFETY FIRST

terraphase engineering

CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

Site Location and Sampling Map 057A (PB 883)

Figure 9

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For AST Closure Report\Figure 9 - 057A (PB 883).mxd 12/30/2022 Created by: JD Checked by: Initial Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

Photograph 1:

View of Tank 057A (PB 883) during demolition.

Photograph 2:

View of Tank 057A (PB 883) during demolition.

	Photograph 3: View of Tank 057A (PB 883) during demolition.
	Photograph 4: View of Tank 057A (PB 883) during demolition.

Photograph 5:

View of scrap piles and the concrete pad during demolition.

Product Movement and Waste Disposal Documentation (Tank 057A)

NorthStar Contracting Group, Inc.

PES Project Load Ticket

Load Ticket: 17650

Date: 11-9-21

Scrap

Sold to: Allegheny

Location: TANK 883

Carrier: Allesley

Steel / Ferrous

- ☐ No. 1 P+S
- ☐ No. 2 Heavy Melt
- ☐ Cast Iron
- ☐ Mixed
- ☐ Pipe
- ☐ Light Iron
- ☐ Re-Bar
- ☐ Other TANK Plate

Non-Ferrous

- ☐ Insulated Copper Wire
- ☐ No. 1 Copper Wire
- ☐ Brass
- ☐ Aluminum
- ☐ Stainless, Grade_____
- ☐ Other Alloy, Grade_____
- ☐ Mixed
- ☐ Other: _____

Condition

- ☐ Prepared
- ☐ Unprepared
- ☐ Green Waste
- ☐ Concrete
- ☐ Masonry
- ☐ Mixed Masonry
- ☐ Wood Only
- ☐ Demo Debris (C&D)
- ☐ Dirt / Fill
- ☐ Sand Fill
- ☐ Crushed Stone
- ☐ Other:_____

Scale Ticket #: _____

Gross Weight: 93060 lbs

Tare Weight: 41600 lbs

Net Weight: 51460 lbs

NorthStar Rep. Signature: CD

Received By: _____

Non-Haz / ACM / Special Waste

Activity Location: _____

Waste Stream

- ☐ C&D Demolition Debris
- ☐ Non-Friable ACM
- ☐ Friable ACM
- ☐ PB WWTP Sludge
- ☐ GP WWTP Sludge
- ☐ Characteristic Haz Waste (flammable D001, corrosive D002, reactive D003, toxicity D004 –D043)
- ☐ Process Haz Waste
- ☐ Demo Debris (C&D)
- ☐ Non-Haz Waste (Solid)
- ☐ Non-Haz Waste (Liquid)
- ☐ PCB (Non-TSCA)
- ☐ PCB (TSCA)

Disposal Facility: _____

Carrier: _____

Truck #: _____

Container #: _____

Manifest #: _____

Profile / Approval #: _____

Scale Info

Scale Ticket #: _____

Gross Weight: _____

Tare weight: _____

Net weight: _____

Net Kilogram Conversion (PCB Only): _____

NorthStar Rep. Signature: _____

HILCO REDEVELOPEMENT PARTNERS
3144 W. PASSYUNK AVE

PHILADELPHIA PA, 19145

Ticket #: 20031811
Date: 11/09/2021 9:49 AM
Phone: ( ) -
Fax: ( ) -

Customer: HILCO
HILCO

,

Order Number: 001
SCRAP REMOVAL
Tons: 85172.881
Loads: 5620

DT260-50 - TRUCK 260 W/ TRAILER 50
CARLAD - CARLA DAVILA

Remarks: SCRAP REMOVAL

Signature: _____

Material	Quantity	Price	Material $	Delivery $	Misc $	Tax $	Line Total $
SCRAP	25.73 tn						

Weight Information

Material	Gross	Tare	Net
SCRAP	93060.00	41600.00	51460.00

09/74

ABOVEGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

SECTION III. Site Assessment Information

Tank Registration # 058A (complete one sheet for EACH tank system and attach ALL laboratory sheets pertaining to that system)

Facility ID Number 51 - 33620

A. Provide depth of *BEDROCK* and *WATER* IF encountered during excavation or soil boring (write "N/A": if NOT encountered).

Bedrock N/A feet below land surface Water 15 feet below land surface

B. Provide Length of *PIPING* IF piping was closed-in-place (write "N/A" if NOT closed-in-place).

Length of piping N/A feet

C. TANK SYSTEM REMOVED FROM THE GROUND/SITE

1). Was obvious contamination observed while excavating, sampling or removing the tank system?

☒ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records ----→ Do not complete item C.2. below.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

---→ Complete item C.2. below.

2). Was contamination localized (within three feet of the tank system in every direction with no obvious water contamination)?

☐ YES ----→ Remove or remediate contaminated soil ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ NO ----→ Continue Interim Remedial Actions ----→ See end of this section for options on submission and maintenance of closure records.

D. TANK SYSTEM CLOSED-IN-PLACE OR CHANGED-IN-SERVICE

Was obvious contamination observed during sampling, boring or assessing water depths?

☐ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

Continue with corrective action ----→ See end of this section for options on submission and maintenance of closure records.

E. If the answer to C.1. is "no", the answer to C.2. is "yes" or the answer to D. is "no", confirmatory samples are required. Use the sample/analysis information sheet on page 10 of 11 to provide the information on confirmatory sampling and complete the diagram on Page 11 of 11.

Options for Submission and Maintenance of Closure Site Assessment Records

Records of the site assessment must be maintained for at least three years after completion of permanent closure or change-in-service in one of the following ways:

(a) By the owners and operators who took the tank system out of service;
(b) By the current owners and operators of the tank system site; or
(c) By mailing these records to the DEP regional office responsible for the county in which the tank is located if they cannot be maintained at the closed facility.

Where the results of the site assessment indicate that obvious, localized soil contamination was encountered and the analytical results of the confirmatory sampling show levels below the statewide standard/action levels, this closure report form (Sections I, II, and III) or some other acceptable site characterization report must be received by the Department within 180 days of verbally reporting the release.

Where the results of the site assessment indicate that no obvious contamination or obvious, localized contamination was encountered, but the analytical results of the confirmatory sampling show levels above the statewide standard/action levels, or where there is obvious, extensive contamination, Section 245.310(a)(8) of the Corrective Action Process (CAP) regulations requires that details of removal from service be included in the site characterization report. A copy of the completed closure report form should be submitted as part of the site characterization report to satisfy the requirements of Section 245.310(a)(8) of the CAP regulations.

I, Kevin Long , hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating to unsworn
(Print Name)
falsification to authorities) that I am the person who performed the site assessment activities associated with the closure of the above referenced storage tank system(s) and that the information provided by me in this closure report (Section III) is true, accurate and complete to the best of my knowledge and belief.

Kevin L. Long

Signature of Person Performing Site Assessment

2 / 1 / 2023
Date

Principal Consultant
Title of Person Performing Site Assessment

Terraphase Engineering, Inc.
Name of Company Performing Site Assessment

609-236-8171 x93
Telephone Number of Person Performing Site Assessment

ABOVEGROUND STORAGE TANK SYSTEM
CLOSURE REPORT FORM

Sample/Analysis Information
(Attachment for Section III.)

Facility ID Number 51 - 33620

Sample I.D. (See diagram)	Parameter	Analytical Method[1]		Media	Result (units)	Detection Limit (units)	Date Sample Taken	Date Sample Analyzed
See attached summary table							/ /	/ /
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[1] Where EPA Method 5035 is used, indicate sample collection option in the right-hand box of this column using the following codes:

P - Samples placed in a soil sample vial with a preservative present.
E - Samples collected and stored in a soil collection device which is airtight and affords little to no headspace.

N - Samples placed in soil sample vial without a preservative present.

Site Location and Sampling Map - Use this page or suitable facsimile to provide a large-scale map of the site where storage tank systems were closed. Scales between 1" = 10 and 1" = 100 feet frequently work well. Include the following information as each applies to the site: facility name and I.D., county, township or borough, property boundaries or area of interest, buildings, roads and streets with names or route numbers, utilities, location and ID number of storage tank systems removed including piping and dispensers, soil stockpile locations, excavations or other locations of product recovery, north arrow, approximate map scale and legend. Also, show depth and location of samples with sample ID numbers cross-referenced to the same ID numbers shown on Page 10 of 11.

Facility Name and ID: -

County:

Township/Borough: See attached Figure

Table 10 - 058A (PB 884)

Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-884-01	PB-884-01-SS01	3	3.5	Toluene	SW8260C	Soil	0.001	0.00092	12/3/2021	12/15/2021
PB-884-01	PB-884-01-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-01	PB-884-01-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	12/3/2021	12/15/2021
PB-884-01	PB-884-01-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	12/3/2021	12/15/2021
PB-884-01	PB-884-01-SS01	3	3.5	Chrysene	SW8270D	Soil	0.048	0.12	12/3/2021	12/15/2021
PB-884-01	PB-884-01-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.032	0.16	12/3/2021	12/15/2021
PB-884-01	PB-884-01-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.077	0.12	12/3/2021	12/15/2021
PB-884-01	PB-884-01-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	0.055	0.16	12/3/2021	12/15/2021
PB-884-01	PB-884-01-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.053	0.12	12/3/2021	12/15/2021
PB-884-01	PB-884-01-SS01	3	3.5	Pyrene	SW8270D	Soil	0.031	0.12	12/3/2021	12/15/2021
PB-884-01	PB-884-01-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.0024	0.0018	12/3/2021	12/15/2021
PB-884-01	PB-884-01-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-01	PB-884-01-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.0048	0.0018	12/3/2021	12/15/2021
PB-884-01	PB-884-01-SS01	3	3.5	Lead	SW6010D	Soil	24.5	2.28	12/3/2021	12/16/2021
PB-884-01	PB-884-01-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00046	12/3/2021	12/15/2021
PB-884-01	PB-884-01-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00092	12/3/2021	12/15/2021
PB-884-01	PB-884-01-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.00088	0.0018	12/3/2021	12/15/2021
PB-884-01	PB-884-01-SS01	3	3.5	Benzene	SW8260C	Soil	0.0003	0.00046	12/3/2021	12/15/2021
PB-884-01	PB-884-01-SS01	3	3.5	Cumene	SW8260C	Soil	0.00072	0.00092	12/3/2021	12/15/2021
PB-884-01	PB-884-01-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	0.00023	0.00092	12/3/2021	12/15/2021
PB-884-01	PB-884-01-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	12/3/2021	12/15/2021
PB-884-02	PB-884-02-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00098	12/3/2021	12/13/2021
PB-884-02	PB-884-02-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	12/3/2021	12/15/2021
PB-884-02	PB-884-02-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	12/3/2021	12/15/2021
PB-884-02	PB-884-02-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-02	PB-884-02-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	12/3/2021	12/15/2021
PB-884-02	PB-884-02-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-02	PB-884-02-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/3/2021	12/15/2021
PB-884-02	PB-884-02-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-02	PB-884-02-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-02	PB-884-02-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-02	PB-884-02-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-02	PB-884-02-SS01	3	3.5	Lead	SW6010D	Soil	5.62	2.36	12/3/2021	12/16/2021
PB-884-02	PB-884-02-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	12/3/2021	12/13/2021
PB-884-02	PB-884-02-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00098	12/3/2021	12/13/2021
PB-884-02	PB-884-02-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00098	12/3/2021	12/13/2021
PB-884-02	PB-884-02-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00049	12/3/2021	12/13/2021
PB-884-02	PB-884-02-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	12/3/2021	12/13/2021
PB-884-02	PB-884-02-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00098	12/3/2021	12/13/2021
PB-884-02	PB-884-02-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00049	12/3/2021	12/13/2021
PB-884-02	PB-884-02-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	12/3/2021	12/13/2021
PB-884-02	PB-884-02-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	12/3/2021	12/13/2021
PB-884-02	PB-884-02-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-03	PB-884-03-SS01	3	3.5	Pyrene	SW8270D	Soil	0.055	0.12	12/3/2021	12/15/2021
PB-884-03	PB-884-03-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.053	0.12	12/3/2021	12/15/2021
PB-884-03	PB-884-03-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.17	12/3/2021	12/15/2021
PB-884-03	PB-884-03-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.051	0.12	12/3/2021	12/15/2021
PB-884-03	PB-884-03-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.17	12/3/2021	12/15/2021
PB-884-03	PB-884-03-SS01	3	3.5	Chrysene	SW8270D	Soil	0.048	0.12	12/3/2021	12/15/2021
PB-884-03	PB-884-03-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.21	12/3/2021	12/15/2021
PB-884-03	PB-884-03-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.21	12/3/2021	12/15/2021
PB-884-03	PB-884-03-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	12/3/2021	12/13/2021
PB-884-03	PB-884-03-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.033	0.12	12/3/2021	12/15/2021
PB-884-03	PB-884-03-SS01	3	3.5	Lead	SW6010D	Soil	8.8	2.49	12/3/2021	12/16/2021
PB-884-03	PB-884-03-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0021	12/3/2021	12/13/2021
PB-884-03	PB-884-03-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-03	PB-884-03-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0021	12/3/2021	12/13/2021
PB-884-03	PB-884-03-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00053	12/3/2021	12/13/2021
PB-884-03	PB-884-03-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	12/3/2021	12/13/2021
PB-884-03	PB-884-03-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0021	12/3/2021	12/13/2021
PB-884-03	PB-884-03-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00053	12/3/2021	12/13/2021
PB-884-03	PB-884-03-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	12/3/2021	12/13/2021
PB-884-03	PB-884-03-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	12/3/2021	12/13/2021
PB-884-03	PB-884-03-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0021	12/3/2021	12/13/2021
PB-884-04	PB-884-04-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	12/3/2021	12/15/2021
PB-884-04	PB-884-04-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.32	0.12	12/3/2021	12/15/2021
PB-884-04	PB-884-04-SS01	3	3.5	Naphthalene	SW8270D	Soil	0.073	0.2	12/3/2021	12/15/2021
PB-884-04	PB-884-04-SS01	3	3.5	Fluorene	SW8270D	Soil	0.35	0.2	12/3/2021	12/15/2021
PB-884-04	PB-884-04-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-04	PB-884-04-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	12/3/2021	12/15/2021
PB-884-04	PB-884-04-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-04	PB-884-04-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/3/2021	12/15/2021
PB-884-04	PB-884-04-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-04	PB-884-04-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-04	PB-884-04-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.015	0.0021	12/3/2021	12/15/2021
PB-884-04	PB-884-04-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-04	PB-884-04-SS01	3	3.5	Lead	SW6010D	Soil	6.72	2.43	12/3/2021	12/16/2021
PB-884-04	PB-884-04-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.00123	0.0021	12/3/2021	12/15/2021
PB-884-04	PB-884-04-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00052	12/3/2021	12/15/2021
PB-884-04	PB-884-04-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	12/3/2021	12/15/2021
PB-884-04	PB-884-04-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.0045	0.0021	12/3/2021	12/15/2021
PB-884-04	PB-884-04-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00052	12/3/2021	12/15/2021
PB-884-04	PB-884-04-SS01	3	3.5	Cumene	SW8260C	Soil	0.078	0.001	12/3/2021	12/15/2021
PB-884-04	PB-884-04-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	12/3/2021	12/15/2021
PB-884-04	PB-884-04-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	0.0003	0.0021	12/3/2021	12/15/2021
PB-884-05	PB-884-05-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0016	12/6/2021	12/13/2021
PB-884-05	PB-884-05-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	12/6/2021	12/16/2021
PB-884-05	PB-884-05-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	12/6/2021	12/16/2021
PB-884-05	PB-884-05-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	12/6/2021	12/16/2021
PB-884-05	PB-884-05-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	12/6/2021	12/16/2021
PB-884-05	PB-884-05-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	12/6/2021	12/16/2021
PB-884-05	PB-884-05-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	12/6/2021	12/16/2021
PB-884-05	PB-884-05-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	12/6/2021	12/16/2021
PB-884-05	PB-884-05-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	12/6/2021	12/16/2021
PB-884-05	PB-884-05-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	12/6/2021	12/16/2021
PB-884-05	PB-884-05-SS01	3	3.5	Lead	SW6010D	Soil	2.38	2.03	12/6/2021	12/19/2021
PB-884-05	PB-884-05-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0032	12/6/2021	12/13/2021
PB-884-05	PB-884-05-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0016	12/6/2021	12/13/2021
PB-884-05	PB-884-05-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0016	12/6/2021	12/13/2021
PB-884-05	PB-884-05-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0008	12/6/2021	12/13/2021
PB-884-05	PB-884-05-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0032	12/6/2021	12/13/2021
PB-884-05	PB-884-05-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0016	12/6/2021	12/13/2021
PB-884-05	PB-884-05-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0008	12/6/2021	12/13/2021
PB-884-05	PB-884-05-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0032	12/6/2021	12/13/2021
PB-884-05	PB-884-05-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	12/6/2021	12/16/2021
PB-884-05	PB-884-05-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0032	12/6/2021	12/13/2021
PB-884-06	PB-884-06-SS01	3.5	4	Benzo(a)anthracene	SW8270D	Soil	0.028	0.1	12/6/2021	12/15/2021

Table 10 - 058A (PB 884)

Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-884-06	PB-884-06-SS01	3.5	4	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	12/6/2021	12/15/2021
PB-884-06	PB-884-06-SS01	3.5	4	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	12/6/2021	12/15/2021
PB-884-06	PB-884-06-SS01	3.5	4	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	12/6/2021	12/15/2021
PB-884-06	PB-884-06-SS01	3.5	4	Chrysene	SW8270D	Soil	0.027	0.1	12/6/2021	12/15/2021
PB-884-06	PB-884-06-SS01	3.5	4	Fluorene	SW8270D	Soil	ND	0.17	12/6/2021	12/15/2021
PB-884-06	PB-884-06-SS01	3.5	4	Naphthalene	SW8270D	Soil	ND	0.17	12/6/2021	12/15/2021
PB-884-06	PB-884-06-SS01	3.5	4	Pyrene	SW8270D	Soil	0.039	0.1	12/6/2021	12/15/2021
PB-884-06	PB-884-06-SS01	3.5	4	Toluene	SW8260C	Soil	0.00069	0.0009	12/6/2021	12/16/2021
PB-884-06	PB-884-06-SS01	3.5	4	Phenanthrene	SW8270D	Soil	0.065	0.1	12/6/2021	12/15/2021
PB-884-06	PB-884-06-SS01	3.5	4	1,2-Dibromoethane	SW8260C	Soil	ND	0.00045	12/6/2021	12/16/2021
PB-884-06	PB-884-06-SS01	3.5	4	Anthracene	SW8270D	Soil	ND	0.1	12/6/2021	12/15/2021
PB-884-06	PB-884-06-SS01	3.5	4	Xylenes (total)	SW8260C	Soil	0.00193	0.0018	12/6/2021	12/16/2021
PB-884-06	PB-884-06-SS01	3.5	4	1,2,4-Trimethylbenzene	SW8260C	Soil	0.0064	0.0018	12/6/2021	12/16/2021
PB-884-06	PB-884-06-SS01	3.5	4	1,2-Dichloroethane	SW8260C	Soil	ND	0.0009	12/6/2021	12/16/2021
PB-884-06	PB-884-06-SS01	3.5	4	1,3,5-Trimethylbenzene	SW8260C	Soil	0.0042	0.0018	12/6/2021	12/16/2021
PB-884-06	PB-884-06-SS01	3.5	4	Benzene	SW8260C	Soil	0.0003	0.00045	12/6/2021	12/16/2021
PB-884-06	PB-884-06-SS01	3.5	4	Cumene	SW8260C	Soil	0.00039	0.0009	12/6/2021	12/16/2021
PB-884-06	PB-884-06-SS01	3.5	4	Ethyl Benzene	SW8260C	Soil	0.00052	0.0009	12/6/2021	12/16/2021
PB-884-06	PB-884-06-SS01	3.5	4	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	12/6/2021	12/16/2021
PB-884-06	PB-884-06-SS01	3.5	4	Lead	SW6010D	Soil	89	9.96	12/6/2021	12/19/2021
PB-884-07	PB-884-07-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0013	12/6/2021	12/15/2021
PB-884-07	PB-884-07-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	12/6/2021	12/15/2021
PB-884-07	PB-884-07-SS01	3	3.5	Pyrene	SW8270D	Soil	0.043	0.1	12/6/2021	12/15/2021
PB-884-07	PB-884-07-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.03	0.1	12/6/2021	12/15/2021
PB-884-07	PB-884-07-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	12/6/2021	12/15/2021
PB-884-07	PB-884-07-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	12/6/2021	12/15/2021
PB-884-07	PB-884-07-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	12/6/2021	12/15/2021
PB-884-07	PB-884-07-SS01	3	3.5	Chrysene	SW8270D	Soil	0.021	0.1	12/6/2021	12/15/2021
PB-884-07	PB-884-07-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	12/6/2021	12/15/2021
PB-884-07	PB-884-07-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	12/6/2021	12/15/2021
PB-884-07	PB-884-07-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	12/6/2021	12/15/2021
PB-884-07	PB-884-07-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0027	12/6/2021	12/15/2021
PB-884-07	PB-884-07-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0013	12/6/2021	12/15/2021
PB-884-07	PB-884-07-SS01	3	3.5	Lead	SW6010D	Soil	2.61	2.04	12/6/2021	12/19/2021
PB-884-07	PB-884-07-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0027	12/6/2021	12/15/2021
PB-884-07	PB-884-07-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00066	12/6/2021	12/15/2021
PB-884-07	PB-884-07-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0013	12/6/2021	12/15/2021
PB-884-07	PB-884-07-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0027	12/6/2021	12/15/2021
PB-884-07	PB-884-07-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00066	12/6/2021	12/15/2021
PB-884-07	PB-884-07-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0013	12/6/2021	12/15/2021
PB-884-07	PB-884-07-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0027	12/6/2021	12/15/2021
PB-884-08	PB-884-08-SS01	4.5	5	Toluene	SW8260C	Soil	0.082	0.065	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	0.058	0.11	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	Phenanthrene	SW8270D	Soil	0.45	0.11	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	Naphthalene	SW8270D	Soil	0.84	0.19	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	Fluorene	SW8270D	Soil	0.25	0.19	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	Chrysene	SW8270D	Soil	0.11	0.11	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	0.041	0.15	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	0.08	0.11	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	0.055	0.15	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	Pyrene	SW8270D	Soil	0.13	0.11	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.033	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	2.1	0.13	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	5.4	0.13	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.065	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.66	0.13	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	Benzene	SW8260C	Soil	0.15	0.033	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	Cumene	SW8260C	Soil	0.08	0.065	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	0.14	0.065	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.13	7/14/2022	7/18/2022
PB-884-08	PB-884-08-SS01	4.5	5	Lead	SW6010D	Soil	60.2	4.36	7/14/2022	7/19/2022
PB-884-09	PB-884-09-SS01	3	3.5	Toluene	SW8260C	Soil	13	0.068	7/14/2022	7/20/2022
PB-884-09	PB-884-09-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.022	0.1	7/14/2022	7/18/2022
PB-884-09	PB-884-09-SS01	3	3.5	Pyrene	SW8270D	Soil	0.056	0.1	7/14/2022	7/18/2022
PB-884-09	PB-884-09-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.7	0.1	7/14/2022	7/18/2022
PB-884-09	PB-884-09-SS01	3	3.5	Naphthalene	SW8270D	Soil	3.2	0.17	7/14/2022	7/18/2022
PB-884-09	PB-884-09-SS01	3	3.5	Fluorene	SW8270D	Soil	0.25	0.17	7/14/2022	7/18/2022
PB-884-09	PB-884-09-SS01	3	3.5	Chrysene	SW8270D	Soil	0.092	0.1	7/14/2022	7/18/2022
PB-884-09	PB-884-09-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-884-09	PB-884-09-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-09	PB-884-09-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-884-09	PB-884-09-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.034	7/14/2022	7/20/2022
PB-884-09	PB-884-09-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-09	PB-884-09-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	41	0.14	7/14/2022	7/20/2022
PB-884-09	PB-884-09-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	12	0.14	7/14/2022	7/20/2022
PB-884-09	PB-884-09-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.068	7/14/2022	7/20/2022
PB-884-09	PB-884-09-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	3.7	0.14	7/14/2022	7/20/2022
PB-884-09	PB-884-09-SS01	3	3.5	Benzene	SW8260C	Soil	2	0.034	7/14/2022	7/20/2022
PB-884-09	PB-884-09-SS01	3	3.5	Cumene	SW8260C	Soil	2.8	0.068	7/14/2022	7/20/2022
PB-884-09	PB-884-09-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	6.6	0.068	7/14/2022	7/20/2022
PB-884-09	PB-884-09-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.14	7/14/2022	7/20/2022
PB-884-09	PB-884-09-SS01	3	3.5	Lead	SW6010D	Soil	1.95	1.99	7/14/2022	7/19/2022
PB-884-10	PB-884-10-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	12/6/2021	12/13/2021
PB-884-10	PB-884-10-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	12/6/2021	12/20/2021
PB-884-10	PB-884-10-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	12/6/2021	12/20/2021
PB-884-10	PB-884-10-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	12/6/2021	12/20/2021
PB-884-10	PB-884-10-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	12/6/2021	12/20/2021
PB-884-10	PB-884-10-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	12/6/2021	12/20/2021
PB-884-10	PB-884-10-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	12/6/2021	12/20/2021
PB-884-10	PB-884-10-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	12/6/2021	12/20/2021
PB-884-10	PB-884-10-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	12/6/2021	12/20/2021
PB-884-10	PB-884-10-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	12/6/2021	12/20/2021
PB-884-10	PB-884-10-SS01	3	3.5	Lead	SW6010D	Soil	2.58	1.99	12/6/2021	12/19/2021
PB-884-10	PB-884-10-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0021	12/6/2021	12/13/2021
PB-884-10	PB-884-10-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	12/6/2021	12/13/2021
PB-884-10	PB-884-10-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	12/6/2021	12/13/2021
PB-884-10	PB-884-10-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00053	12/6/2021	12/13/2021
PB-884-10	PB-884-10-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0021	12/6/2021	12/13/2021
PB-884-10	PB-884-10-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	12/6/2021	12/13/2021
PB-884-10	PB-884-10-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00053	12/6/2021	12/13/2021
PB-884-10	PB-884-10-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0021	12/6/2021	12/13/2021
PB-884-10	PB-884-10-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0021	12/6/2021	12/13/2021
PB-884-10	PB-884-10-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	12/6/2021	12/20/2021
PB-884-11	PB-884-11-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-11	PB-884-11-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	0.074	0.16	12/3/2021	12/15/2021

Table 10 - 058A (PB 884)

Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-884-11	PB-884-11-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.095	0.12	12/3/2021	12/15/2021
PB-884-11	PB-884-11-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.038	0.16	12/3/2021	12/15/2021
PB-884-11	PB-884-11-SS01	3	3.5	Chrysene	SW8270D	Soil	0.087	0.12	12/3/2021	12/15/2021
PB-884-11	PB-884-11-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.21	12/3/2021	12/15/2021
PB-884-11	PB-884-11-SS01	3	3.5	Naphthalene	SW8270D	Soil	0.068	0.21	12/3/2021	12/15/2021
PB-884-11	PB-884-11-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.065	0.12	12/3/2021	12/15/2021
PB-884-11	PB-884-11-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	12/3/2021	12/15/2021
PB-884-11	PB-884-11-SS01	3	3.5	Pyrene	SW8270D	Soil	0.091	0.12	12/3/2021	12/15/2021
PB-884-11	PB-884-11-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	12/3/2021	12/15/2021
PB-884-11	PB-884-11-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.089	0.12	12/3/2021	12/15/2021
PB-884-11	PB-884-11-SS01	3	3.5	Lead	SW6010D	Soil	37	2.43	12/3/2021	12/16/2021
PB-884-11	PB-884-11-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00051	12/3/2021	12/15/2021
PB-884-11	PB-884-11-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	12/3/2021	12/15/2021
PB-884-11	PB-884-11-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	12/3/2021	12/15/2021
PB-884-11	PB-884-11-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00051	12/3/2021	12/15/2021
PB-884-11	PB-884-11-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	12/3/2021	12/15/2021
PB-884-11	PB-884-11-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	12/3/2021	12/15/2021
PB-884-11	PB-884-11-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	12/3/2021	12/15/2021
PB-884-11	PB-884-11-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	12/3/2021	12/15/2021
PB-884-12	DUP-22	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	12/3/2021	12/13/2021
PB-884-12	DUP-22	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-12	DUP-22	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	12/3/2021	12/15/2021
PB-884-12	DUP-22	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	12/3/2021	12/15/2021
PB-884-12	DUP-22	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-12	DUP-22	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	12/3/2021	12/15/2021
PB-884-12	DUP-22	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-12	DUP-22	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/3/2021	12/15/2021
PB-884-12	DUP-22	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-12	DUP-22	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-12	DUP-22	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0021	12/3/2021	12/13/2021
PB-884-12	DUP-22	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-12	DUP-22	3	3.5	Lead	SW6010D	Soil	54.3	2.37	12/3/2021	12/16/2021
PB-884-12	DUP-22	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0021	12/3/2021	12/13/2021
PB-884-12	DUP-22	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00054	12/3/2021	12/13/2021
PB-884-12	DUP-22	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	12/3/2021	12/13/2021
PB-884-12	DUP-22	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0021	12/3/2021	12/13/2021
PB-884-12	DUP-22	3	3.5	Benzene	SW8260C	Soil	ND	0.00054	12/3/2021	12/13/2021
PB-884-12	DUP-22	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	12/3/2021	12/13/2021
PB-884-12	DUP-22	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	12/3/2021	12/13/2021
PB-884-12	DUP-22	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0021	12/3/2021	12/13/2021
PB-884-12	PB-884-12-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	12/3/2021	12/13/2021
PB-884-12	PB-884-12-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-12	PB-884-12-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	12/3/2021	12/15/2021
PB-884-12	PB-884-12-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	12/3/2021	12/15/2021
PB-884-12	PB-884-12-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-12	PB-884-12-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	12/3/2021	12/15/2021
PB-884-12	PB-884-12-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-12	PB-884-12-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/3/2021	12/15/2021
PB-884-12	PB-884-12-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-12	PB-884-12-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-12	PB-884-12-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0023	12/3/2021	12/13/2021
PB-884-12	PB-884-12-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-12	PB-884-12-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0023	12/3/2021	12/13/2021
PB-884-12	PB-884-12-SS01	3	3.5	Lead	SW6010D	Soil	5.65	2.4	12/3/2021	12/16/2021
PB-884-12	PB-884-12-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00059	12/3/2021	12/13/2021
PB-884-12	PB-884-12-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	12/3/2021	12/13/2021
PB-884-12	PB-884-12-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0023	12/3/2021	12/13/2021
PB-884-12	PB-884-12-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00059	12/3/2021	12/13/2021
PB-884-12	PB-884-12-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	12/3/2021	12/13/2021
PB-884-12	PB-884-12-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	12/3/2021	12/13/2021
PB-884-12	PB-884-12-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0023	12/3/2021	12/13/2021
PB-884-13	PB-884-13-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00052	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0021	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00052	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0021	7/14/2022	7/18/2022
PB-884-13	PB-884-13-SS01	3	3.5	Lead	SW6010D	Soil	3.2	2.13	7/14/2022	7/19/2022
PB-884-14	PB-884-14-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	7/14/2022	7/18/2022
PB-884-14	PB-884-14-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-884-14	PB-884-14-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-14	PB-884-14-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-14	PB-884-14-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-14	PB-884-14-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-14	PB-884-14-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-884-14	PB-884-14-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-14	PB-884-14-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/14/2022	7/18/2022
PB-884-14	PB-884-14-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-14	PB-884-14-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/14/2022	7/18/2022
PB-884-14	PB-884-14-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/14/2022	7/18/2022
PB-884-14	PB-884-14-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	7/14/2022	7/18/2022
PB-884-14	PB-884-14-SS01	3	3.5	Lead	SW6010D	Soil	2.63	1.99	7/14/2022	7/19/2022
PB-884-14	PB-884-14-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/14/2022	7/18/2022
PB-884-14	PB-884-14-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00054	7/14/2022	7/18/2022
PB-884-14	PB-884-14-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/14/2022	7/18/2022
PB-884-14	PB-884-14-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/14/2022	7/18/2022
PB-884-14	PB-884-14-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00054	7/14/2022	7/18/2022
PB-884-14	PB-884-14-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	7/14/2022	7/18/2022
PB-884-14	PB-884-14-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/14/2022	7/18/2022
PB-884-15	PB-884-15-SS01	3	3.5	Toluene	SW8260C	Soil	9	0.059	7/14/2022	7/21/2022
PB-884-15	PB-884-15-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-15	PB-884-15-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.45	0.1	7/14/2022	7/18/2022

Table 10 - 058A (PB 884)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-884-15	PB-884-15-SS01	3	3.5	Naphthalene	SW8270D	Soil	0.85	0.17	7/14/2022	7/18/2022
PB-884-15	PB-884-15-SS01	3	3.5	Fluorene	SW8270D	Soil	0.13	0.17	7/14/2022	7/18/2022
PB-884-15	PB-884-15-SS01	3	3.5	Chrysene	SW8270D	Soil	0.059	0.1	7/14/2022	7/18/2022
PB-884-15	PB-884-15-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-884-15	PB-884-15-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-15	PB-884-15-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-884-15	PB-884-15-SS01	3	3.5	Pyrene	SW8270D	Soil	0.036	0.1	7/14/2022	7/18/2022
PB-884-15	PB-884-15-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.029	7/14/2022	7/21/2022
PB-884-15	PB-884-15-SS01	3	3.5	Lead	SW6010D	Soil	1.68	2.02	7/14/2022	7/19/2022
PB-884-15	PB-884-15-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-15	PB-884-15-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	14	0.12	7/14/2022	7/21/2022
PB-884-15	PB-884-15-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	47	0.12	7/14/2022	7/21/2022
PB-884-15	PB-884-15-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.059	7/14/2022	7/21/2022
PB-884-15	PB-884-15-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	4.5	0.12	7/14/2022	7/21/2022
PB-884-15	PB-884-15-SS01	3	3.5	Benzene	SW8260C	Soil	2.6	0.029	7/14/2022	7/21/2022
PB-884-15	PB-884-15-SS01	3	3.5	Cumene	SW8260C	Soil	3.6	0.059	7/14/2022	7/21/2022
PB-884-15	PB-884-15-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	8.8	0.059	7/14/2022	7/21/2022
PB-884-15	PB-884-15-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.12	7/14/2022	7/21/2022
PB-884-16	PB-884-16-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0036	7/14/2022	7/18/2022
PB-884-16	PB-884-16-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-884-16	PB-884-16-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-884-16	PB-884-16-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-884-16	PB-884-16-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-884-16	PB-884-16-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-884-16	PB-884-16-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-884-16	PB-884-16-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-884-16	PB-884-16-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-884-16	PB-884-16-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-884-16	PB-884-16-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0036	7/14/2022	7/18/2022
PB-884-16	PB-884-16-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-884-16	PB-884-16-SS01	3	3.5	Lead	SW6010D	Soil	1.86	2	7/14/2022	7/19/2022
PB-884-16	PB-884-16-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0009	7/14/2022	7/18/2022
PB-884-16	PB-884-16-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0018	7/14/2022	7/18/2022
PB-884-16	PB-884-16-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0036	7/14/2022	7/18/2022
PB-884-16	PB-884-16-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0009	7/14/2022	7/18/2022
PB-884-16	PB-884-16-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0018	7/14/2022	7/18/2022
PB-884-16	PB-884-16-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0018	7/14/2022	7/18/2022
PB-884-16	PB-884-16-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0036	7/14/2022	7/18/2022
PB-884-16	PB-884-16-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0018	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0023	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00058	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	Lead	SW6010D	Soil	1.99	2.01	7/14/2022	7/19/2022
PB-884-17	PB-884-17-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0023	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00058	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0023	7/14/2022	7/18/2022
PB-884-17	PB-884-17-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0023	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	Pyrene	SW8270D	Soil	ND	0.12	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.12	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.2	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	Phenanthrene	SW8270D	Soil	ND	0.12	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	0.00054	0.0022	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	Naphthalene	SW8270D	Soil	0.05	0.2	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.0011	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	0.024	0.0011	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	Cumene	SW8260C	Soil	0.0053	0.0011	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	Benzene	SW8260C	Soil	0.035	0.00055	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.01	0.0022	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00055	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.033	0.0022	7/14/2022	7/18/2022
PB-884-18	PB-884-18-SS01	4.5	5	Lead	SW6010D	Soil	7.17	4.64	7/14/2022	7/19/2022
PB-884-18	PB-884-18-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	0.0275	0.0022	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	Naphthalene	SW8270D	Soil	0.085	0.17	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.05	0.0023	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.04	0.1	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00057	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	Lead	SW6010D	Soil	1.61	2.08	7/14/2022	7/20/2022
PB-884-19	PB-884-19-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.022	0.0023	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	Benzene	SW8260C	Soil	0.00036	0.00057	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	Cumene	SW8260C	Soil	0.0044	0.0011	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	0.0024	0.0011	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0023	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/14/2022	7/18/2022
PB-884-19	PB-884-19-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.052	0.0023	7/14/2022	7/18/2022
PB-884-20	PB-884-20-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-20	PB-884-20-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-20	PB-884-20-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-20	PB-884-20-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022

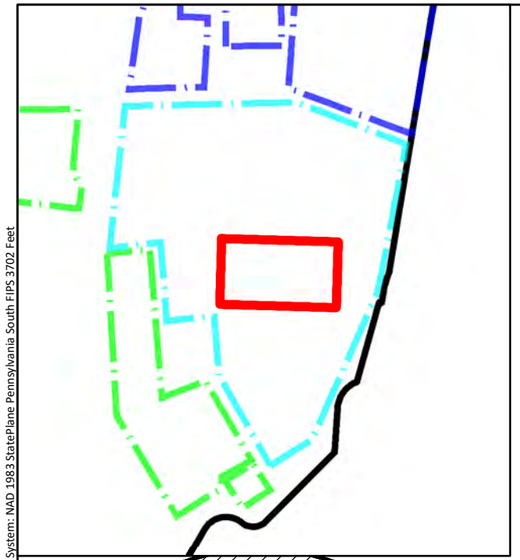
Table 10 - 058A (PB 884)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-884-20	PB-884-20-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-884-20	PB-884-20-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-884-20	PB-884-20-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-20	PB-884-20-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/14/2022	7/18/2022
PB-884-20	PB-884-20-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-20	PB-884-20-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	7/14/2022	7/18/2022
PB-884-20	PB-884-20-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/14/2022	7/18/2022
PB-884-20	PB-884-20-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/14/2022	7/18/2022
PB-884-20	PB-884-20-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	7/14/2022	7/18/2022
PB-884-20	PB-884-20-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00055	7/14/2022	7/18/2022
PB-884-20	PB-884-20-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/14/2022	7/18/2022
PB-884-20	PB-884-20-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/14/2022	7/18/2022
PB-884-20	PB-884-20-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00055	7/14/2022	7/18/2022
PB-884-20	PB-884-20-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	7/14/2022	7/18/2022
PB-884-20	PB-884-20-SS01	3	3.5	Lead	SW6010D	Soil	1.04	2.06	7/14/2022	7/20/2022
PB-884-20	PB-884-20-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/14/2022	7/18/2022
PB-884-20	PB-884-20-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	7/14/2022	7/18/2022
PB-884-21	PB-884-21-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-884-21	PB-884-21-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-884-21	PB-884-21-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-884-21	PB-884-21-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-884-21	PB-884-21-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-884-21	PB-884-21-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-884-21	PB-884-21-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-884-21	PB-884-21-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-884-21	PB-884-21-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-884-21	PB-884-21-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0019	7/14/2022	7/18/2022
PB-884-21	PB-884-21-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-884-21	PB-884-21-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/14/2022	7/18/2022
PB-884-21	PB-884-21-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0019	7/14/2022	7/18/2022
PB-884-21	PB-884-21-SS01	3	3.5	Lead	SW6010D	Soil	1.98	2.05	7/14/2022	7/20/2022
PB-884-21	PB-884-21-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00094	7/14/2022	7/18/2022
PB-884-21	PB-884-21-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00047	7/14/2022	7/18/2022
PB-884-21	PB-884-21-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00094	7/14/2022	7/18/2022
PB-884-21	PB-884-21-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/14/2022	7/18/2022
PB-884-21	PB-884-21-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00047	7/14/2022	7/18/2022
PB-884-21	PB-884-21-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00094	7/14/2022	7/18/2022
PB-884-21	PB-884-21-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00094	7/14/2022	7/18/2022
PB-884-22	PB-884-22-SS01	3	3.5	Lead	SW6010D	Soil	2.77	2.16	12/6/2021	12/19/2021
PB-884-22	PB-884-22-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0026	12/6/2021	12/13/2021
PB-884-22	PB-884-22-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00066	12/6/2021	12/13/2021
PB-884-22	PB-884-22-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0013	12/6/2021	12/13/2021
PB-884-22	PB-884-22-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0026	12/6/2021	12/13/2021
PB-884-22	PB-884-22-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0013	12/6/2021	12/13/2021
PB-884-22	PB-884-22-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0013	12/6/2021	12/13/2021
PB-884-22	PB-884-22-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	12/6/2021	12/15/2021
PB-884-22	PB-884-22-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00066	12/6/2021	12/13/2021
PB-884-22	PB-884-22-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	12/6/2021	12/15/2021
PB-884-22	PB-884-22-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	12/6/2021	12/15/2021
PB-884-22	PB-884-22-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	12/6/2021	12/15/2021
PB-884-22	PB-884-22-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	12/6/2021	12/15/2021
PB-884-22	PB-884-22-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	12/6/2021	12/15/2021
PB-884-22	PB-884-22-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	12/6/2021	12/15/2021
PB-884-22	PB-884-22-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	12/6/2021	12/15/2021
PB-884-22	PB-884-22-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0026	12/6/2021	12/13/2021
PB-884-22	PB-884-22-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0013	12/6/2021	12/13/2021
PB-884-22	PB-884-22-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0026	12/6/2021	12/13/2021
PB-884-22	PB-884-22-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	12/6/2021	12/15/2021
PB-884-22	PB-884-22-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	12/6/2021	12/15/2021
PB-884-23	PB-884-23-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-23	PB-884-23-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-23	PB-884-23-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-884-23	PB-884-23-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-23	PB-884-23-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/18/2022
PB-884-23	PB-884-23-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-23	PB-884-23-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/14/2022	7/18/2022
PB-884-23	PB-884-23-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-23	PB-884-23-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/18/2022
PB-884-23	PB-884-23-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/14/2022	7/19/2022
PB-884-23	PB-884-23-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/14/2022	7/18/2022
PB-884-23	PB-884-23-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/14/2022	7/19/2022
PB-884-23	PB-884-23-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/14/2022	7/19/2022
PB-884-23	PB-884-23-SS01	3	3.5	Lead	SW6010D	Soil	1.61	2.08	7/14/2022	7/20/2022
PB-884-23	PB-884-23-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0005	7/14/2022	7/19/2022
PB-884-23	PB-884-23-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/14/2022	7/19/2022
PB-884-23	PB-884-23-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/14/2022	7/19/2022
PB-884-23	PB-884-23-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0005	7/14/2022	7/19/2022
PB-884-23	PB-884-23-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	7/14/2022	7/19/2022
PB-884-23	PB-884-23-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/14/2022	7/19/2022
PB-884-23	PB-884-23-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/14/2022	7/19/2022
PB-884-24	PB-884-24-SS01	4.5	5	Anthracene	SW8270D	Soil	ND	0.12	7/15/2022	7/18/2022
PB-884-24	PB-884-24-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0025	7/15/2022	7/20/2022
PB-884-24	PB-884-24-SS01	4.5	5	Phenanthrene	SW8270D	Soil	0.042	0.12	7/15/2022	7/18/2022
PB-884-24	PB-884-24-SS01	4.5	5	Naphthalene	SW8270D	Soil	0.082	0.2	7/15/2022	7/18/2022
PB-884-24	PB-884-24-SS01	4.5	5	Fluorene	SW8270D	Soil	ND	0.2	7/15/2022	7/18/2022
PB-884-24	PB-884-24-SS01	4.5	5	Chrysene	SW8270D	Soil	0.04	0.12	7/15/2022	7/18/2022
PB-884-24	PB-884-24-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	7/15/2022	7/18/2022
PB-884-24	PB-884-24-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	0.046	0.12	7/15/2022	7/18/2022
PB-884-24	PB-884-24-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	7/15/2022	7/18/2022
PB-884-24	PB-884-24-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	0.048	0.12	7/15/2022	7/18/2022
PB-884-24	PB-884-24-SS01	4.5	5	Pyrene	SW8270D	Soil	0.051	0.12	7/15/2022	7/18/2022
PB-884-24	PB-884-24-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.13	0.0025	7/15/2022	7/20/2022
PB-884-24	PB-884-24-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.0013	7/15/2022	7/20/2022
PB-884-24	PB-884-24-SS01	4.5	5	Lead	SW6010D	Soil	45.9	11.7	7/15/2022	7/18/2022
PB-884-24	PB-884-24-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	0.095	0.0013	7/15/2022	7/20/2022
PB-884-24	PB-884-24-SS01	4.5	5	Cumene	SW8260C	Soil	0.03	0.0013	7/15/2022	7/20/2022
PB-884-24	PB-884-24-SS01	4.5	5	Benzene	SW8260C	Soil	0.034	0.00063	7/15/2022	7/20/2022
PB-884-24	PB-884-24-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.042	0.0025	7/15/2022	7/20/2022
PB-884-24	PB-884-24-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0013	7/15/2022	7/20/2022
PB-884-24	PB-884-24-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00063	7/15/2022	7/20/2022
PB-884-24	PB-884-24-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	0.362	0.0025	7/15/2022	7/20/2022
PB-884-25	PB-884-25-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/15/2022	7/18/2022
PB-884-25	PB-884-25-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-884-25	PB-884-25-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/15/2022	7/18/2022
PB-884-25	PB-884-25-SS01	4.5	5	Chrysene	SW8270D	Soil	0.084	0.11	7/15/2022	7/18/2022
PB-884-25	PB-884-25-SS01	4.5	5	Fluorene	SW8270D	Soil	0.31	0.18	7/15/2022	7/18/2022

Table 10 - 058A (PB 884)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-884-25	PB-884-25-SS01	4.5	5	Naphthalene	SW8270D	Soil	2.1	0.18	7/15/2022	7/18/2022
PB-884-25	PB-884-25-SS01	4.5	5	Anthracene	SW8270D	Soil	0.035	0.11	7/15/2022	7/18/2022
PB-884-25	PB-884-25-SS01	4.5	5	Pyrene	SW8270D	Soil	0.048	0.11	7/15/2022	7/18/2022
PB-884-25	PB-884-25-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	41	0.11	7/15/2022	7/21/2022
PB-884-25	PB-884-25-SS01	4.5	5	Phenanthrene	SW8270D	Soil	0.53	0.11	7/15/2022	7/18/2022
PB-884-25	PB-884-25-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.054	7/15/2022	7/20/2022
PB-884-25	PB-884-25-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	0.022	0.11	7/15/2022	7/18/2022
PB-884-25	PB-884-25-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.027	7/15/2022	7/20/2022
PB-884-25	PB-884-25-SS01	4.5	5	Lead	SW6010D	Soil	3.11	2.13	7/15/2022	7/18/2022
PB-884-25	PB-884-25-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	3.8	0.11	7/15/2022	7/20/2022
PB-884-25	PB-884-25-SS01	4.5	5	Benzene	SW8260C	Soil	7.1	0.027	7/15/2022	7/20/2022
PB-884-25	PB-884-25-SS01	4.5	5	Cumene	SW8260C	Soil	3	0.054	7/15/2022	7/20/2022
PB-884-25	PB-884-25-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	9.4	0.054	7/15/2022	7/20/2022
PB-884-25	PB-884-25-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.11	7/15/2022	7/20/2022
PB-884-25	PB-884-25-SS01	4.5	5	Toluene	SW8260C	Soil	15	0.11	7/15/2022	7/21/2022
PB-884-25	PB-884-25-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	12	0.11	7/15/2022	7/20/2022
PB-884-26	PB-884-26-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	12/6/2021	12/16/2021
PB-884-26	PB-884-26-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/6/2021	12/16/2021
PB-884-26	PB-884-26-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/6/2021	12/16/2021
PB-884-26	PB-884-26-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/6/2021	12/16/2021
PB-884-26	PB-884-26-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	12/6/2021	12/16/2021
PB-884-26	PB-884-26-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	12/6/2021	12/16/2021
PB-884-26	PB-884-26-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	12/6/2021	12/16/2021
PB-884-26	PB-884-26-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	12/6/2021	12/16/2021
PB-884-26	PB-884-26-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0024	12/6/2021	12/13/2021
PB-884-26	PB-884-26-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/6/2021	12/16/2021
PB-884-26	PB-884-26-SS01	3	3.5	Pyrene	SW8270D	Soil	0.025	0.12	12/6/2021	12/16/2021
PB-884-26	PB-884-26-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0024	12/6/2021	12/13/2021
PB-884-26	PB-884-26-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0024	12/6/2021	12/13/2021
PB-884-26	PB-884-26-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0006	12/6/2021	12/13/2021
PB-884-26	PB-884-26-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	12/6/2021	12/13/2021
PB-884-26	PB-884-26-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0024	12/6/2021	12/13/2021
PB-884-26	PB-884-26-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0006	12/6/2021	12/13/2021
PB-884-26	PB-884-26-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	12/6/2021	12/13/2021
PB-884-26	PB-884-26-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	12/6/2021	12/13/2021
PB-884-26	PB-884-26-SS01	3	3.5	Lead	SW6010D	Soil	26.5	2.31	12/6/2021	12/19/2021
PB-884-26	PB-884-26-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	12/6/2021	12/13/2021
PB-884-27	PB-884-27-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0005	12/3/2021	12/15/2021
PB-884-27	PB-884-27-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-27	PB-884-27-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-27	PB-884-27-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	12/3/2021	12/15/2021
PB-884-27	PB-884-27-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	12/3/2021	12/15/2021
PB-884-27	PB-884-27-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-27	PB-884-27-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	12/3/2021	12/15/2021
PB-884-27	PB-884-27-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-27	PB-884-27-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/3/2021	12/15/2021
PB-884-27	PB-884-27-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-27	PB-884-27-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00025	12/3/2021	12/15/2021
PB-884-27	PB-884-27-SS01	3	3.5	Lead	SW6010D	Soil	11.5	2.41	12/3/2021	12/16/2021
PB-884-27	PB-884-27-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-27	PB-884-27-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.001	12/3/2021	12/15/2021
PB-884-27	PB-884-27-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.001	12/3/2021	12/15/2021
PB-884-27	PB-884-27-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0005	12/3/2021	12/15/2021
PB-884-27	PB-884-27-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.001	12/3/2021	12/15/2021
PB-884-27	PB-884-27-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00025	12/3/2021	12/15/2021
PB-884-27	PB-884-27-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0005	12/3/2021	12/15/2021
PB-884-27	PB-884-27-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0005	12/3/2021	12/15/2021
PB-884-27	PB-884-27-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.001	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0019	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.045	0.12	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	Chrysene	SW8270D	Soil	0.038	0.12	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.039	0.12	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	Pyrene	SW8270D	Soil	0.06	0.12	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0019	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.042	0.12	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	Lead	SW6010D	Soil	9.37	2.39	12/3/2021	12/16/2021
PB-884-28	PB-884-28-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00048	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00096	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0019	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00048	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00096	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00096	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0019	12/3/2021	12/15/2021
PB-884-28	PB-884-28-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00096	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0009	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.21	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.21	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0009	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00045	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	Lead	SW6010D	Soil	4.49	2.47	12/3/2021	12/16/2021
PB-884-29	PB-884-29-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00045	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0009	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0009	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	12/3/2021	12/15/2021
PB-884-29	PB-884-29-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	12/3/2021	12/15/2021

Notes:
SS -- Soil Sample.
DUP-22 is a field duplicate associated with sample PB-884-12-SS01.



PB 250

PB 884

PB-884-01
PB-884-02
PB-884-03
PB-884-04
PB-884-05
PB-884-06
PB-884-07
PB-884-08
PB-884-09
PB-884-10
PB-884-11
PB-884-12
PB-884-13
PB-884-14
PB-884-15
PB-884-16
PB-884-17
PB-884-18
PB-884-19
PB-884-20
PB-884-21
PB-884-22
PB-884-23
PB-884-24
PB-884-25
PB-884-26
PB-884-27
PB-884-28
PB-884-29

Legend

Tank Group

- 04
- Previously Closed
- Associated Piping
- PESRM Soil Sample Location

0 50 100 Feet

1 inch = 50 feet

N

SAFETY FIRST

terraphase engineering

CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

Site Location and Sampling Map 058A (PB 884)

Figure 10

File: N:\GIS\Pr\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For AST Closure Report\Figure 10 - 058A (PB 884).mxd 12/30/2022 Created by: JD Checked by: Initial Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

Product Movement and Waste Disposal Documentation (Tank 058A)

NorthStar Contracting Group, Inc.

PES Project Load Ticket

#S120103.

Load Ticket: 16968

Date: 10-20-21

Scrap

Sold to: Hillcrest

Location: Yard 824

Carrier: Hillcrest

Steel / Ferrous

- ☐ No. 1 P+S
- ☐ No. 2 Heavy Melt
- ☐ Cast Iron
- ☐ Mixed
- ☐ Pipe
- ☐ Light Iron
- ☐ Re-Bar
- ☐ Other Tank Plate

Non-Ferrous

- ☐ Insulated Copper Wire
- ☐ No. 1 Copper Wire
- ☐ Brass
- ☐ Aluminum
- ☐ Stainless, Grade_____
- ☐ Other Alloy, Grade_____
- ☐ Mixed
- ☐ Other: _____

Condition

- ☐ Prepared
- ☐ Unprepared
- ☐ Green Waste
- ☐ Concrete
- ☐ Masonry
- ☐ Mixed Masonry
- ☐ Wood Only
- ☐ Demo Debris (C&D)
- ☐ Dirt / Fill
- ☐ Sand Fill
- ☐ Crushed Stone
- ☐ Other:_____

Scale Ticket #: _____

Gross Weight: 77460 lbs

Tare Weight: 41940 lbs

Net Weight: 35520 lbs

NorthStar Rep. Signature: _____

Received By: _____

Non-Haz / ACM / Special Waste

Activity Location: _____

Waste Stream

- ☐ C&D Demolition Debris
- ☐ Non-Friable ACM
- ☐ Friable ACM
- ☐ PB WWTP Sludge
- ☐ GP WWTP Sludge
- ☐ Characteristic Haz Waste (flammable D001, corrosive D002, reactive D003, toxicity D004 –D043)
- ☐ Process Haz Waste
- ☐ Demo Debris (C&D)
- ☐ Non-Haz Waste (Solid)
- ☐ Non-Haz Waste (Liquid)
- ☐ PCB (Non-TSCA)
- ☐ PCB (TSCA)

Disposal Facility: _____

Carrier: _____

Truck #: _____

Container #: _____

Manifest #: _____

Profile / Approval #: _____

Scale Info

Scale Ticket #: _____

Gross Weight: _____

Tare weight: _____

Net weight: _____

Net Kilogram Conversion (PCB Only): _____

NorthStar Rep. Signature: _____

HILCO REDEVELOPEMENT PARTNERS
3144 W. PASSYUNK AVE

PHILADELPHIA PA, 19145

Ticket #: 20031158
Date: 10/20/2021 7:55 AM
Phone: ( ) -
Fax: ( ) -

Customer: HILCO
HILCO

Order Number: 001
SCRAP REMOVAL
Tons: 75635.376
Loads: 4993

DT326-1108 - TRACTOR 1108 TRAILER DT326
CARLAD - CARLA DAVILA

Remarks: SCRAP REMOVAL

Signature: _____

Material	Quantity	Price	Material $	Delivery $	Misc $	Tax $	Line Total $
SCRAP	17.54 tn						

Weight Information

Material	Gross	Tare	Net
SCRAP	77480.00	42400.00	35080.00

THE MONSTER
TRAILERS
89698

ABOVEGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

SECTION III. Site Assessment Information

Tank Registration # 059A (complete one sheet for EACH tank system and attach ALL laboratory sheets pertaining to that system)

Facility ID Number 51 - 33620

A. Provide depth of *BEDROCK* and *WATER* IF encountered during excavation or soil boring (write "N/A": if NOT encountered).

Bedrock N/A feet below land surface Water 15 feet below land surface

B. Provide Length of *PIPING* IF piping was closed-in-place (write "N/A" if NOT closed-in-place).

Length of piping N/A feet

C. TANK SYSTEM REMOVED FROM THE GROUND/SITE

1). Was obvious contamination observed while excavating, sampling or removing the tank system?

☒ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records ----→ Do not complete item C.2. below.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

---→ Complete item C.2. below.

2). Was contamination localized (within three feet of the tank system in every direction with no obvious water contamination)?

☐ YES ----→ Remove or remediate contaminated soil ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ NO ----→ Continue Interim Remedial Actions ----→ See end of this section for options on submission and maintenance of closure records.

D. TANK SYSTEM CLOSED-IN-PLACE OR CHANGED-IN-SERVICE

Was obvious contamination observed during sampling, boring or assessing water depths?

☐ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

Continue with corrective action ----→ See end of this section for options on submission and maintenance of closure records.

E. If the answer to C.1. is "no", the answer to C.2. is "yes" or the answer to D. is "no", confirmatory samples are required. Use the sample/analysis information sheet on page 10 of 11 to provide the information on confirmatory sampling and complete the diagram on Page 11 of 11.

Options for Submission and Maintenance of Closure Site Assessment Records

Records of the site assessment must be maintained for at least three years after completion of permanent closure or change-in-service in one of the following ways:

(a) By the owners and operators who took the tank system out of service;
(b) By the current owners and operators of the tank system site; or
(c) By mailing these records to the DEP regional office responsible for the county in which the tank is located if they cannot be maintained at the closed facility.

Where the results of the site assessment indicate that obvious, localized soil contamination was encountered and the analytical results of the confirmatory sampling show levels below the statewide standard/action levels, this closure report form (Sections I, II, and III) or some other acceptable site characterization report must be received by the Department within 180 days of verbally reporting the release.

Where the results of the site assessment indicate that no obvious contamination or obvious, localized contamination was encountered, but the analytical results of the confirmatory sampling show levels above the statewide standard/action levels, or where there is obvious, extensive contamination, Section 245.310(a)(8) of the Corrective Action Process (CAP) regulations requires that details of removal from service be included in the site characterization report. A copy of the completed closure report form should be submitted as part of the site characterization report to satisfy the requirements of Section 245.310(a)(8) of the CAP regulations.

I, Kevin Long , hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating to unsworn
(Print Name)
falsification to authorities) that I am the person who performed the site assessment activities associated with the closure of the above referenced storage tank system(s) and that the information provided by me in this closure report (Section III) is true, accurate and complete to the best of my knowledge and belief.

Kevin L. Long

Signature of Person Performing Site Assessment

2 / 1 / 2023
Date

Principal Consultant
Title of Person Performing Site Assessment

Terraphase Engineering, Inc.
Name of Company Performing Site Assessment

609-236-8171 x93
Telephone Number of Person Performing Site Assessment

ABOVEGROUND STORAGE TANK SYSTEM
CLOSURE REPORT FORM

Sample/Analysis Information
(Attachment for Section III.)

Facility ID Number 51 - 33620

Sample I.D. (See diagram)	Parameter	Analytical Method[1]		Media	Result (units)	Detection Limit (units)	Date Sample Taken	Date Sample Analyzed
See attached summary table							/ /	/ /
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[1] Where EPA Method 5035 is used, indicate sample collection option in the right-hand box of this column using the following codes:

P - Samples placed in a soil sample vial with a preservative present.
E - Samples collected and stored in a soil collection device which is airtight and affords little to no headspace.

N - Samples placed in soil sample vial without a preservative present.

Site Location and Sampling Map - Use this page or suitable facsimile to provide a large-scale map of the site where storage tank systems were closed. Scales between 1" = 10 and 1" = 100 feet frequently work well. Include the following information as each applies to the site: facility name and I.D., county, township or borough, property boundaries or area of interest, buildings, roads and streets with names or route numbers, utilities, location and ID number of storage tank systems removed including piping and dispensers, soil stockpile locations, excavations or other locations of product recovery, north arrow, approximate map scale and legend. Also, show depth and location of samples with sample ID numbers cross-referenced to the same ID numbers shown on Page 10 of 11.

Facility Name and ID: -

County:

Township/Borough: See attached Figure

Table 11 - 059A (PB 885)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-885-01	PB-885-01-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	12/6/2021	12/16/2021
PB-885-01	PB-885-01-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	12/6/2021	12/16/2021
PB-885-01	PB-885-01-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	12/6/2021	12/16/2021
PB-885-01	PB-885-01-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	12/6/2021	12/16/2021
PB-885-01	PB-885-01-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	12/6/2021	12/16/2021
PB-885-01	PB-885-01-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	12/6/2021	12/16/2021
PB-885-01	PB-885-01-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	12/6/2021	12/16/2021
PB-885-01	PB-885-01-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	12/6/2021	12/16/2021
PB-885-01	PB-885-01-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	12/6/2021	12/13/2021
PB-885-01	PB-885-01-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	12/6/2021	12/16/2021
PB-885-01	PB-885-01-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	12/6/2021	12/16/2021
PB-885-01	PB-885-01-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	12/6/2021	12/13/2021
PB-885-01	PB-885-01-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	12/6/2021	12/13/2021
PB-885-01	PB-885-01-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00051	12/6/2021	12/13/2021
PB-885-01	PB-885-01-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	12/6/2021	12/13/2021
PB-885-01	PB-885-01-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	12/6/2021	12/13/2021
PB-885-01	PB-885-01-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00051	12/6/2021	12/13/2021
PB-885-01	PB-885-01-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	12/6/2021	12/13/2021
PB-885-01	PB-885-01-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	12/6/2021	12/13/2021
PB-885-01	PB-885-01-SS01	3	3.5	Lead	SW6010D	Soil	150	11.1	12/6/2021	12/19/2021
PB-885-01	PB-885-01-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	12/6/2021	12/13/2021
PB-885-02	PB-885-02-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00099	12/6/2021	12/13/2021
PB-885-02	PB-885-02-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.031	0.12	12/6/2021	12/20/2021
PB-885-02	PB-885-02-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	12/6/2021	12/20/2021
PB-885-02	PB-885-02-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	12/6/2021	12/20/2021
PB-885-02	PB-885-02-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	12/6/2021	12/20/2021
PB-885-02	PB-885-02-SS01	3	3.5	Chrysene	SW8270D	Soil	0.036	0.12	12/6/2021	12/20/2021
PB-885-02	PB-885-02-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.048	0.15	12/6/2021	12/20/2021
PB-885-02	PB-885-02-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.075	0.12	12/6/2021	12/20/2021
PB-885-02	PB-885-02-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	0.054	0.15	12/6/2021	12/20/2021
PB-885-02	PB-885-02-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	12/6/2021	12/20/2021
PB-885-02	PB-885-02-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0005	12/6/2021	12/13/2021
PB-885-02	PB-885-02-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/6/2021	12/20/2021
PB-885-02	PB-885-02-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	12/6/2021	12/13/2021
PB-885-02	PB-885-02-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	12/6/2021	12/13/2021
PB-885-02	PB-885-02-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00099	12/6/2021	12/13/2021
PB-885-02	PB-885-02-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	12/6/2021	12/13/2021
PB-885-02	PB-885-02-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0005	12/6/2021	12/13/2021
PB-885-02	PB-885-02-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00099	12/6/2021	12/13/2021
PB-885-02	PB-885-02-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00099	12/6/2021	12/13/2021
PB-885-02	PB-885-02-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	12/6/2021	12/13/2021
PB-885-02	PB-885-02-SS01	3	3.5	Lead	SW6010D	Soil	43.9	11.3	12/6/2021	12/19/2021
PB-885-03	PB-885-03-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	12/6/2021	12/13/2021
PB-885-03	PB-885-03-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	12/6/2021	12/20/2021
PB-885-03	PB-885-03-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	12/6/2021	12/20/2021
PB-885-03	PB-885-03-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	12/6/2021	12/20/2021
PB-885-03	PB-885-03-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	12/6/2021	12/20/2021
PB-885-03	PB-885-03-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	12/6/2021	12/20/2021
PB-885-03	PB-885-03-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	12/6/2021	12/20/2021
PB-885-03	PB-885-03-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	12/6/2021	12/20/2021
PB-885-03	PB-885-03-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	12/6/2021	12/20/2021
PB-885-03	PB-885-03-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	12/6/2021	12/20/2021
PB-885-03	PB-885-03-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00054	12/6/2021	12/13/2021
PB-885-03	PB-885-03-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	12/6/2021	12/20/2021
PB-885-03	PB-885-03-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	12/6/2021	12/13/2021
PB-885-03	PB-885-03-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	12/6/2021	12/13/2021
PB-885-03	PB-885-03-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	12/6/2021	12/13/2021
PB-885-03	PB-885-03-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	12/6/2021	12/13/2021
PB-885-03	PB-885-03-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00054	12/6/2021	12/13/2021
PB-885-03	PB-885-03-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	12/6/2021	12/13/2021
PB-885-03	PB-885-03-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	12/6/2021	12/13/2021
PB-885-03	PB-885-03-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	12/6/2021	12/13/2021
PB-885-03	PB-885-03-SS01	3	3.5	Lead	SW6010D	Soil	2.68	2.05	12/6/2021	12/19/2021
PB-885-04	PB-885-04-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00091	7/14/2022	7/19/2022
PB-885-04	PB-885-04-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-04	PB-885-04-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-885-04	PB-885-04-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-885-04	PB-885-04-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-04	PB-885-04-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-885-04	PB-885-04-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-04	PB-885-04-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-885-04	PB-885-04-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-04	PB-885-04-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-04	PB-885-04-SS01	3	3.5	Lead	SW6010D	Soil	1.56	2	7/14/2022	7/19/2022
PB-885-04	PB-885-04-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/14/2022	7/19/2022
PB-885-04	PB-885-04-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00091	7/14/2022	7/19/2022
PB-885-04	PB-885-04-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00091	7/14/2022	7/19/2022
PB-885-04	PB-885-04-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00046	7/14/2022	7/19/2022
PB-885-04	PB-885-04-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/14/2022	7/19/2022
PB-885-04	PB-885-04-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00091	7/14/2022	7/19/2022
PB-885-04	PB-885-04-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00046	7/14/2022	7/19/2022
PB-885-04	PB-885-04-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/14/2022	7/19/2022
PB-885-04	PB-885-04-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/14/2022	7/19/2022
PB-885-04	PB-885-04-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-05	PB-885-05-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-05	PB-885-05-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-885-05	PB-885-05-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-05	PB-885-05-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-885-05	PB-885-05-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-05	PB-885-05-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-885-05	PB-885-05-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-885-05	PB-885-05-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-05	PB-885-05-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0019	7/14/2022	7/19/2022
PB-885-05	PB-885-05-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-05	PB-885-05-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/14/2022	7/19/2022
PB-885-05	PB-885-05-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-05	PB-885-05-SS01	3	3.5	Lead	SW6010D	Soil	1.39	1.97	7/14/2022	7/19/2022
PB-885-05	PB-885-05-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00047	7/14/2022	7/19/2022
PB-885-05	PB-885-05-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00095	7/14/2022	7/19/2022
PB-885-05	PB-885-05-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/14/2022	7/19/2022
PB-885-05	PB-885-05-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00047	7/14/2022	7/19/2022
PB-885-05	PB-885-05-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00095	7/14/2022	7/19/2022
PB-885-05	PB-885-05-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00095	7/14/2022	7/19/2022
PB-885-05	PB-885-05-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0019	7/14/2022	7/19/2022
PB-885-05	PB-885-05-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00095	7/14/2022	7/19/2022
PB-885-06	PB-885-06-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	12/7/2021	12/19/2021

Table 11 - 059A (PB 885)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-885-06	PB-885-06-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	12/7/2021	12/21/2021
PB-885-06	PB-885-06-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	12/7/2021	12/21/2021
PB-885-06	PB-885-06-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	12/7/2021	12/21/2021
PB-885-06	PB-885-06-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	12/7/2021	12/21/2021
PB-885-06	PB-885-06-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	12/7/2021	12/21/2021
PB-885-06	PB-885-06-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	12/7/2021	12/21/2021
PB-885-06	PB-885-06-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	12/7/2021	12/21/2021
PB-885-06	PB-885-06-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	12/7/2021	12/21/2021
PB-885-06	PB-885-06-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	12/7/2021	12/21/2021
PB-885-06	PB-885-06-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	12/7/2021	12/19/2021
PB-885-06	PB-885-06-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	12/7/2021	12/21/2021
PB-885-06	PB-885-06-SS01	3	3.5	Lead	SW6010D	Soil	2.41	2.07	12/7/2021	12/21/2021
PB-885-06	PB-885-06-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	12/7/2021	12/19/2021
PB-885-06	PB-885-06-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00056	12/7/2021	12/19/2021
PB-885-06	PB-885-06-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	12/7/2021	12/19/2021
PB-885-06	PB-885-06-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	12/7/2021	12/19/2021
PB-885-06	PB-885-06-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00056	12/7/2021	12/19/2021
PB-885-06	PB-885-06-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	12/7/2021	12/19/2021
PB-885-06	PB-885-06-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	12/7/2021	12/19/2021
PB-885-06	PB-885-06-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	12/7/2021	12/19/2021
PB-885-07	PB-885-07-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	12/6/2021	12/13/2021
PB-885-07	PB-885-07-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	12/6/2021	12/20/2021
PB-885-07	PB-885-07-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	12/6/2021	12/20/2021
PB-885-07	PB-885-07-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	12/6/2021	12/20/2021
PB-885-07	PB-885-07-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	12/6/2021	12/20/2021
PB-885-07	PB-885-07-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	12/6/2021	12/20/2021
PB-885-07	PB-885-07-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	12/6/2021	12/20/2021
PB-885-07	PB-885-07-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	12/6/2021	12/20/2021
PB-885-07	PB-885-07-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	12/6/2021	12/20/2021
PB-885-07	PB-885-07-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	12/6/2021	12/20/2021
PB-885-07	PB-885-07-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	12/6/2021	12/13/2021
PB-885-07	PB-885-07-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	12/6/2021	12/20/2021
PB-885-07	PB-885-07-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	12/6/2021	12/13/2021
PB-885-07	PB-885-07-SS01	3	3.5	Lead	SW6010D	Soil	17.4	2.15	12/6/2021	12/19/2021
PB-885-07	PB-885-07-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00056	12/6/2021	12/13/2021
PB-885-07	PB-885-07-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	12/6/2021	12/13/2021
PB-885-07	PB-885-07-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	12/6/2021	12/13/2021
PB-885-07	PB-885-07-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00056	12/6/2021	12/13/2021
PB-885-07	PB-885-07-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	12/6/2021	12/13/2021
PB-885-07	PB-885-07-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	12/6/2021	12/13/2021
PB-885-07	PB-885-07-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	12/6/2021	12/13/2021
PB-885-08	PB-885-08-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00083	12/6/2021	12/15/2021
PB-885-08	PB-885-08-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.35	12/6/2021	12/20/2021
PB-885-08	PB-885-08-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.35	12/6/2021	12/20/2021
PB-885-08	PB-885-08-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.21	12/6/2021	12/20/2021
PB-885-08	PB-885-08-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.28	12/6/2021	12/20/2021
PB-885-08	PB-885-08-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.21	12/6/2021	12/20/2021
PB-885-08	PB-885-08-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.28	12/6/2021	12/20/2021
PB-885-08	PB-885-08-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.21	12/6/2021	12/20/2021
PB-885-08	PB-885-08-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.21	12/6/2021	12/20/2021
PB-885-08	PB-885-08-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.21	12/6/2021	12/20/2021
PB-885-08	PB-885-08-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00042	12/6/2021	12/15/2021
PB-885-08	PB-885-08-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.21	12/6/2021	12/20/2021
PB-885-08	PB-885-08-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0017	12/6/2021	12/15/2021
PB-885-08	PB-885-08-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0017	12/6/2021	12/15/2021
PB-885-08	PB-885-08-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00083	12/6/2021	12/15/2021
PB-885-08	PB-885-08-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0017	12/6/2021	12/15/2021
PB-885-08	PB-885-08-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00042	12/6/2021	12/15/2021
PB-885-08	PB-885-08-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00083	12/6/2021	12/15/2021
PB-885-08	PB-885-08-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00083	12/6/2021	12/15/2021
PB-885-08	PB-885-08-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0017	12/6/2021	12/15/2021
PB-885-08	PB-885-08-SS01	3	3.5	Lead	SW6010D	Soil	9.07	2.01	12/6/2021	12/19/2021
PB-885-09	PB-885-09-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/6/2021	12/15/2021
PB-885-09	PB-885-09-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	12/6/2021	12/15/2021
PB-885-09	PB-885-09-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/6/2021	12/15/2021
PB-885-09	PB-885-09-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/6/2021	12/15/2021
PB-885-09	PB-885-09-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/6/2021	12/15/2021
PB-885-09	PB-885-09-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	12/6/2021	12/15/2021
PB-885-09	PB-885-09-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	12/6/2021	12/15/2021
PB-885-09	PB-885-09-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	12/6/2021	12/15/2021
PB-885-09	PB-885-09-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	12/6/2021	12/15/2021
PB-885-09	PB-885-09-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	12/6/2021	12/15/2021
PB-885-09	PB-885-09-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	12/6/2021	12/15/2021
PB-885-09	PB-885-09-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	12/6/2021	12/15/2021
PB-885-09	PB-885-09-SS01	3	3.5	Lead	SW6010D	Soil	7.61	2.39	12/6/2021	12/19/2021
PB-885-09	PB-885-09-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	12/6/2021	12/15/2021
PB-885-09	PB-885-09-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	12/6/2021	12/15/2021
PB-885-09	PB-885-09-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	12/6/2021	12/15/2021
PB-885-09	PB-885-09-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0005	12/6/2021	12/15/2021
PB-885-09	PB-885-09-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	12/6/2021	12/15/2021
PB-885-09	PB-885-09-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	12/6/2021	12/15/2021
PB-885-09	PB-885-09-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0005	12/6/2021	12/15/2021
PB-885-09	PB-885-09-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	12/6/2021	12/15/2021
PB-885-10	PB-885-10-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	12/6/2021	12/16/2021
PB-885-10	PB-885-10-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	12/6/2021	12/16/2021
PB-885-10	PB-885-10-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	12/6/2021	12/16/2021
PB-885-10	PB-885-10-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	12/6/2021	12/16/2021
PB-885-10	PB-885-10-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	12/6/2021	12/16/2021
PB-885-10	PB-885-10-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	12/6/2021	12/16/2021
PB-885-10	PB-885-10-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	12/6/2021	12/16/2021
PB-885-10	PB-885-10-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	12/6/2021	12/16/2021
PB-885-10	PB-885-10-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	12/6/2021	12/15/2021
PB-885-10	PB-885-10-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	12/6/2021	12/16/2021
PB-885-10	PB-885-10-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0023	12/6/2021	12/15/2021
PB-885-10	PB-885-10-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	12/6/2021	12/16/2021
PB-885-10	PB-885-10-SS01	3	3.5	Lead	SW6010D	Soil	3.04	2.03	12/6/2021	12/19/2021
PB-885-10	PB-885-10-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0023	12/6/2021	12/15/2021
PB-885-10	PB-885-10-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00058	12/6/2021	12/15/2021
PB-885-10	PB-885-10-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	12/6/2021	12/15/2021
PB-885-10	PB-885-10-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0023	12/6/2021	12/15/2021
PB-885-10	PB-885-10-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00058	12/6/2021	12/15/2021
PB-885-10	PB-885-10-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	12/6/2021	12/15/2021
PB-885-10	PB-885-10-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	12/6/2021	12/15/2021
PB-885-10	PB-885-10-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0023	12/6/2021	12/15/2021
PB-885-11	PB-885-11-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	12/6/2021	12/15/2021
PB-885-11	PB-885-11-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	12/6/2021	12/16/2021

Table 11 - 059A (PB 885)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-885-11	PB-885-11-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.21	12/6/2021	12/16/2021
PB-885-11	PB-885-11-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.21	12/6/2021	12/16/2021
PB-885-11	PB-885-11-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	12/6/2021	12/16/2021
PB-885-11	PB-885-11-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.17	12/6/2021	12/16/2021
PB-885-11	PB-885-11-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/6/2021	12/16/2021
PB-885-11	PB-885-11-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.17	12/6/2021	12/16/2021
PB-885-11	PB-885-11-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/6/2021	12/16/2021
PB-885-11	PB-885-11-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	12/6/2021	12/16/2021
PB-885-11	PB-885-11-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0021	12/6/2021	12/15/2021
PB-885-11	PB-885-11-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/6/2021	12/16/2021
PB-885-11	PB-885-11-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0021	12/6/2021	12/15/2021
PB-885-11	PB-885-11-SS01	3	3.5	Lead	SW6010D	Soil	6.43	2.5	12/6/2021	12/19/2021
PB-885-11	PB-885-11-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00053	12/6/2021	12/15/2021
PB-885-11	PB-885-11-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	12/6/2021	12/15/2021
PB-885-11	PB-885-11-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0021	12/6/2021	12/15/2021
PB-885-11	PB-885-11-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00053	12/6/2021	12/15/2021
PB-885-11	PB-885-11-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	12/6/2021	12/15/2021
PB-885-11	PB-885-11-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	12/6/2021	12/15/2021
PB-885-11	PB-885-11-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0021	12/6/2021	12/15/2021
PB-885-12	PB-885-12-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00087	7/14/2022	7/19/2022
PB-885-12	PB-885-12-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-885-12	PB-885-12-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-885-12	PB-885-12-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-12	PB-885-12-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-885-12	PB-885-12-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-12	PB-885-12-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-885-12	PB-885-12-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-12	PB-885-12-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-12	PB-885-12-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-12	PB-885-12-SS01	3	3.5	Lead	SW6010D	Soil	1.33	1.97	7/14/2022	7/19/2022
PB-885-12	PB-885-12-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0017	7/14/2022	7/19/2022
PB-885-12	PB-885-12-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00087	7/14/2022	7/19/2022
PB-885-12	PB-885-12-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00087	7/14/2022	7/19/2022
PB-885-12	PB-885-12-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00043	7/14/2022	7/19/2022
PB-885-12	PB-885-12-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/14/2022	7/19/2022
PB-885-12	PB-885-12-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00087	7/14/2022	7/19/2022
PB-885-12	PB-885-12-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00043	7/14/2022	7/19/2022
PB-885-12	PB-885-12-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/14/2022	7/19/2022
PB-885-12	PB-885-12-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0017	7/14/2022	7/19/2022
PB-885-12	PB-885-12-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-13	PB-885-13-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-13	PB-885-13-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-885-13	PB-885-13-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-13	PB-885-13-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-885-13	PB-885-13-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-13	PB-885-13-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-885-13	PB-885-13-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-885-13	PB-885-13-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-13	PB-885-13-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00095	7/14/2022	7/19/2022
PB-885-13	PB-885-13-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-13	PB-885-13-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/14/2022	7/19/2022
PB-885-13	PB-885-13-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0019	7/14/2022	7/19/2022
PB-885-13	PB-885-13-SS01	3	3.5	Lead	SW6010D	Soil	1.72	1.99	7/14/2022	7/19/2022
PB-885-13	PB-885-13-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00048	7/14/2022	7/19/2022
PB-885-13	PB-885-13-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00095	7/14/2022	7/19/2022
PB-885-13	PB-885-13-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0019	7/14/2022	7/19/2022
PB-885-13	PB-885-13-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00048	7/14/2022	7/19/2022
PB-885-13	PB-885-13-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00095	7/14/2022	7/19/2022
PB-885-13	PB-885-13-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00095	7/14/2022	7/19/2022
PB-885-13	PB-885-13-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0019	7/14/2022	7/19/2022
PB-885-13	PB-885-13-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-14	PB-885-14-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00084	7/14/2022	7/19/2022
PB-885-14	PB-885-14-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-14	PB-885-14-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-885-14	PB-885-14-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-885-14	PB-885-14-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-14	PB-885-14-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-885-14	PB-885-14-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-14	PB-885-14-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-885-14	PB-885-14-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-14	PB-885-14-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-14	PB-885-14-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/14/2022	7/19/2022
PB-885-14	PB-885-14-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-14	PB-885-14-SS01	3	3.5	Lead	SW6010D	Soil	1.45	1.95	7/14/2022	7/19/2022
PB-885-14	PB-885-14-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0017	7/14/2022	7/19/2022
PB-885-14	PB-885-14-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00042	7/14/2022	7/19/2022
PB-885-14	PB-885-14-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00084	7/14/2022	7/19/2022
PB-885-14	PB-885-14-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/14/2022	7/19/2022
PB-885-14	PB-885-14-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00042	7/14/2022	7/19/2022
PB-885-14	PB-885-14-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00084	7/14/2022	7/19/2022
PB-885-14	PB-885-14-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00084	7/14/2022	7/19/2022
PB-885-14	PB-885-14-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0017	7/14/2022	7/19/2022
PB-885-15	PB-885-15-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0009	7/14/2022	7/19/2022
PB-885-15	PB-885-15-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-885-15	PB-885-15-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-885-15	PB-885-15-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-15	PB-885-15-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-885-15	PB-885-15-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-15	PB-885-15-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-885-15	PB-885-15-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-15	PB-885-15-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-15	PB-885-15-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-15	PB-885-15-SS01	3	3.5	Lead	SW6010D	Soil	1.48	1.98	7/14/2022	7/19/2022
PB-885-15	PB-885-15-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/14/2022	7/19/2022
PB-885-15	PB-885-15-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0009	7/14/2022	7/19/2022
PB-885-15	PB-885-15-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0009	7/14/2022	7/19/2022
PB-885-15	PB-885-15-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00045	7/14/2022	7/19/2022
PB-885-15	PB-885-15-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/14/2022	7/19/2022
PB-885-15	PB-885-15-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0009	7/14/2022	7/19/2022
PB-885-15	PB-885-15-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00045	7/14/2022	7/19/2022
PB-885-15	PB-885-15-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/14/2022	7/19/2022
PB-885-15	PB-885-15-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-15	PB-885-15-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/14/2022	7/19/2022
PB-885-16	PB-885-16-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/6/2021	12/16/2021
PB-885-16	PB-885-16-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/6/2021	12/16/2021
PB-885-16	PB-885-16-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/6/2021	12/16/2021

Table 11 - 059A (PB 885)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-885-16	PB-885-16-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	12/6/2021	12/16/2021
PB-885-16	PB-885-16-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	12/6/2021	12/16/2021
PB-885-16	PB-885-16-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	12/6/2021	12/16/2021
PB-885-16	PB-885-16-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	12/6/2021	12/16/2021
PB-885-16	PB-885-16-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	12/6/2021	12/16/2021
PB-885-16	PB-885-16-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	12/6/2021	12/13/2021
PB-885-16	PB-885-16-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	12/6/2021	12/16/2021
PB-885-16	PB-885-16-SS01	3	3.5	Lead	SW6010D	Soil	8.76	11.4	12/6/2021	12/19/2021
PB-885-16	PB-885-16-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	12/6/2021	12/13/2021
PB-885-16	PB-885-16-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	12/6/2021	12/13/2021
PB-885-16	PB-885-16-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	12/6/2021	12/13/2021
PB-885-16	PB-885-16-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00056	12/6/2021	12/13/2021
PB-885-16	PB-885-16-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	12/6/2021	12/13/2021
PB-885-16	PB-885-16-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	12/6/2021	12/13/2021
PB-885-16	PB-885-16-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00056	12/6/2021	12/13/2021
PB-885-16	PB-885-16-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	12/6/2021	12/13/2021
PB-885-16	PB-885-16-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	12/6/2021	12/13/2021
PB-885-16	PB-885-16-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/6/2021	12/16/2021
PB-885-17	DUP-45	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-17	DUP-45	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-17	DUP-45	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-885-17	DUP-45	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-17	DUP-45	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-885-17	DUP-45	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-17	DUP-45	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/15/2022	7/18/2022
PB-885-17	DUP-45	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/15/2022	7/18/2022
PB-885-17	DUP-45	3	3.5	Toluene	SW8260C	Soil	ND	0.00093	7/15/2022	7/19/2022
PB-885-17	DUP-45	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-17	DUP-45	3	3.5	Lead	SW6010D	Soil	2.24	2.16	7/15/2022	7/21/2022
PB-885-17	DUP-45	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/15/2022	7/19/2022
PB-885-17	DUP-45	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-17	DUP-45	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/15/2022	7/19/2022
PB-885-17	DUP-45	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00046	7/15/2022	7/19/2022
PB-885-17	DUP-45	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00093	7/15/2022	7/19/2022
PB-885-17	DUP-45	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/15/2022	7/19/2022
PB-885-17	DUP-45	3	3.5	Benzene	SW8260C	Soil	ND	0.00046	7/15/2022	7/19/2022
PB-885-17	DUP-45	3	3.5	Cumene	SW8260C	Soil	ND	0.00093	7/15/2022	7/19/2022
PB-885-17	DUP-45	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00093	7/15/2022	7/19/2022
PB-885-17	DUP-45	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/15/2022	7/19/2022
PB-885-17	PB-885-17-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00082	7/15/2022	7/19/2022
PB-885-17	PB-885-17-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-17	PB-885-17-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-885-17	PB-885-17-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-885-17	PB-885-17-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-17	PB-885-17-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-885-17	PB-885-17-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-17	PB-885-17-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-885-17	PB-885-17-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-17	PB-885-17-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-17	PB-885-17-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0016	7/15/2022	7/19/2022
PB-885-17	PB-885-17-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-17	PB-885-17-SS01	3	3.5	Lead	SW6010D	Soil	1.53	2.21	7/15/2022	7/21/2022
PB-885-17	PB-885-17-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0016	7/15/2022	7/19/2022
PB-885-17	PB-885-17-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00041	7/15/2022	7/19/2022
PB-885-17	PB-885-17-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00082	7/15/2022	7/19/2022
PB-885-17	PB-885-17-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0016	7/15/2022	7/19/2022
PB-885-17	PB-885-17-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00041	7/15/2022	7/19/2022
PB-885-17	PB-885-17-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00082	7/15/2022	7/19/2022
PB-885-17	PB-885-17-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00082	7/15/2022	7/19/2022
PB-885-17	PB-885-17-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0016	7/15/2022	7/19/2022
PB-885-18	PB-885-18-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0009	7/15/2022	7/19/2022
PB-885-18	PB-885-18-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/15/2022	7/18/2022
PB-885-18	PB-885-18-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/15/2022	7/18/2022
PB-885-18	PB-885-18-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/15/2022	7/18/2022
PB-885-18	PB-885-18-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/15/2022	7/18/2022
PB-885-18	PB-885-18-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/15/2022	7/18/2022
PB-885-18	PB-885-18-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/15/2022	7/18/2022
PB-885-18	PB-885-18-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/15/2022	7/18/2022
PB-885-18	PB-885-18-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/15/2022	7/18/2022
PB-885-18	PB-885-18-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/15/2022	7/18/2022
PB-885-18	PB-885-18-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/15/2022	7/19/2022
PB-885-18	PB-885-18-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/15/2022	7/18/2022
PB-885-18	PB-885-18-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/15/2022	7/19/2022
PB-885-18	PB-885-18-SS01	3	3.5	Lead	SW6010D	Soil	1.49	2.06	7/15/2022	7/21/2022
PB-885-18	PB-885-18-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00045	7/15/2022	7/19/2022
PB-885-18	PB-885-18-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0009	7/15/2022	7/19/2022
PB-885-18	PB-885-18-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/15/2022	7/19/2022
PB-885-18	PB-885-18-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00045	7/15/2022	7/19/2022
PB-885-18	PB-885-18-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0009	7/15/2022	7/19/2022
PB-885-18	PB-885-18-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0009	7/15/2022	7/19/2022
PB-885-18	PB-885-18-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/15/2022	7/19/2022
PB-885-19	PB-885-19-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00087	7/15/2022	7/19/2022
PB-885-19	PB-885-19-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-885-19	PB-885-19-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-885-19	PB-885-19-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-19	PB-885-19-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-885-19	PB-885-19-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-19	PB-885-19-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-885-19	PB-885-19-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-19	PB-885-19-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-19	PB-885-19-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-19	PB-885-19-SS01	3	3.5	Lead	SW6010D	Soil	1.93	2.13	7/15/2022	7/21/2022
PB-885-19	PB-885-19-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0017	7/15/2022	7/19/2022
PB-885-19	PB-885-19-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00087	7/15/2022	7/19/2022
PB-885-19	PB-885-19-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00087	7/15/2022	7/19/2022
PB-885-19	PB-885-19-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00044	7/15/2022	7/19/2022
PB-885-19	PB-885-19-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/15/2022	7/19/2022
PB-885-19	PB-885-19-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00087	7/15/2022	7/19/2022
PB-885-19	PB-885-19-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00044	7/15/2022	7/19/2022
PB-885-19	PB-885-19-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/15/2022	7/19/2022
PB-885-19	PB-885-19-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0017	7/15/2022	7/19/2022
PB-885-19	PB-885-19-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-20	PB-885-20-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-20	PB-885-20-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-20	PB-885-20-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-885-20	PB-885-20-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022

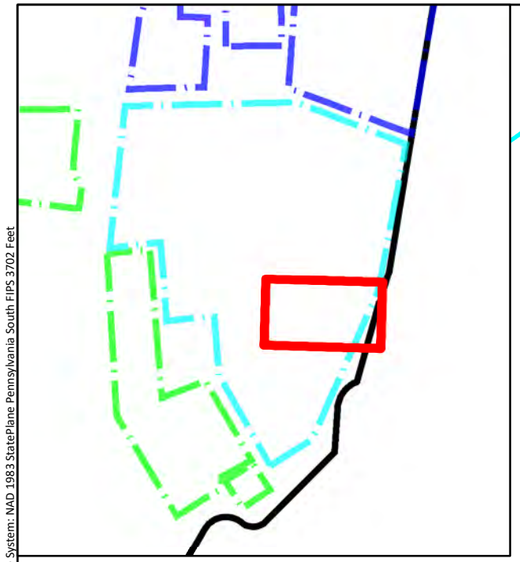
Table 11 - 059A (PB 885)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-885-20	PB-885-20-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-885-20	PB-885-20-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-20	PB-885-20-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-885-20	PB-885-20-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-885-20	PB-885-20-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00099	7/14/2022	7/19/2022
PB-885-20	PB-885-20-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-20	PB-885-20-SS01	3	3.5	Lead	SW6010D	Soil	1.63	1.97	7/14/2022	7/19/2022
PB-885-20	PB-885-20-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/14/2022	7/19/2022
PB-885-20	PB-885-20-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-20	PB-885-20-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/14/2022	7/19/2022
PB-885-20	PB-885-20-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00049	7/14/2022	7/19/2022
PB-885-20	PB-885-20-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00099	7/14/2022	7/19/2022
PB-885-20	PB-885-20-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/14/2022	7/19/2022
PB-885-20	PB-885-20-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00049	7/14/2022	7/19/2022
PB-885-20	PB-885-20-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00099	7/14/2022	7/19/2022
PB-885-20	PB-885-20-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00099	7/14/2022	7/19/2022
PB-885-20	PB-885-20-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/14/2022	7/19/2022
PB-885-21	PB-885-21-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	12/7/2021	12/17/2021
PB-885-21	PB-885-21-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	12/7/2021	12/21/2021
PB-885-21	PB-885-21-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	12/7/2021	12/21/2021
PB-885-21	PB-885-21-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	12/7/2021	12/21/2021
PB-885-21	PB-885-21-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	12/7/2021	12/21/2021
PB-885-21	PB-885-21-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	12/7/2021	12/21/2021
PB-885-21	PB-885-21-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	12/7/2021	12/21/2021
PB-885-21	PB-885-21-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	12/7/2021	12/21/2021
PB-885-21	PB-885-21-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	12/7/2021	12/21/2021
PB-885-21	PB-885-21-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	12/7/2021	12/21/2021
PB-885-21	PB-885-21-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0022	12/7/2021	12/17/2021
PB-885-21	PB-885-21-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	12/7/2021	12/21/2021
PB-885-21	PB-885-21-SS01	3	3.5	Lead	SW6010D	Soil	3.11	2.06	12/7/2021	12/21/2021
PB-885-21	PB-885-21-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0022	12/7/2021	12/17/2021
PB-885-21	PB-885-21-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00056	12/7/2021	12/17/2021
PB-885-21	PB-885-21-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	12/7/2021	12/17/2021
PB-885-21	PB-885-21-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0022	12/7/2021	12/17/2021
PB-885-21	PB-885-21-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00056	12/7/2021	12/17/2021
PB-885-21	PB-885-21-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	12/7/2021	12/17/2021
PB-885-21	PB-885-21-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	12/7/2021	12/17/2021
PB-885-21	PB-885-21-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0022	12/7/2021	12/17/2021
PB-885-22	PB-885-22-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	12/7/2021	12/17/2021
PB-885-22	PB-885-22-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	12/7/2021	12/21/2021
PB-885-22	PB-885-22-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	12/7/2021	12/21/2021
PB-885-22	PB-885-22-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	12/7/2021	12/21/2021
PB-885-22	PB-885-22-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	12/7/2021	12/21/2021
PB-885-22	PB-885-22-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	12/7/2021	12/21/2021
PB-885-22	PB-885-22-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	12/7/2021	12/21/2021
PB-885-22	PB-885-22-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	12/7/2021	12/21/2021
PB-885-22	PB-885-22-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	12/7/2021	12/21/2021
PB-885-22	PB-885-22-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	12/7/2021	12/21/2021
PB-885-22	PB-885-22-SS01	3	3.5	Lead	SW6010D	Soil	4.76	4.73	12/7/2021	12/22/2021
PB-885-22	PB-885-22-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	12/7/2021	12/17/2021
PB-885-22	PB-885-22-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	12/7/2021	12/17/2021
PB-885-22	PB-885-22-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	12/7/2021	12/17/2021
PB-885-22	PB-885-22-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0005	12/7/2021	12/17/2021
PB-885-22	PB-885-22-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	12/7/2021	12/17/2021
PB-885-22	PB-885-22-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	12/7/2021	12/17/2021
PB-885-22	PB-885-22-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0005	12/7/2021	12/17/2021
PB-885-22	PB-885-22-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	12/7/2021	12/17/2021
PB-885-22	PB-885-22-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	12/7/2021	12/21/2021
PB-885-22	PB-885-22-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	12/7/2021	12/17/2021
PB-885-23	DUP-23	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	2.4	12/7/2021	12/21/2021
PB-885-23	DUP-23	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	3.2	12/7/2021	12/21/2021
PB-885-23	DUP-23	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	2.4	12/7/2021	12/21/2021
PB-885-23	DUP-23	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	3.2	12/7/2021	12/21/2021
PB-885-23	DUP-23	3	3.5	Chrysene	SW8270D	Soil	ND	2.4	12/7/2021	12/21/2021
PB-885-23	DUP-23	3	3.5	Fluorene	SW8270D	Soil	14	4	12/7/2021	12/21/2021
PB-885-23	DUP-23	3	3.5	Naphthalene	SW8270D	Soil	ND	4	12/7/2021	12/21/2021
PB-885-23	DUP-23	3	3.5	Pyrene	SW8270D	Soil	2.9	2.4	12/7/2021	12/21/2021
PB-885-23	DUP-23	3	3.5	Toluene	SW8260C	Soil	ND	0.067	12/7/2021	12/20/2021
PB-885-23	DUP-23	3	3.5	Phenanthrene	SW8270D	Soil	29	2.4	12/7/2021	12/21/2021
PB-885-23	DUP-23	3	3.5	Lead	SW6010D	Soil	6.69	2.29	12/7/2021	12/21/2021
PB-885-23	DUP-23	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.13	12/7/2021	12/20/2021
PB-885-23	DUP-23	3	3.5	Ethyl Benzene	SW8260C	Soil	0.016	0.067	12/7/2021	12/20/2021
PB-885-23	DUP-23	3	3.5	Cumene	SW8260C	Soil	2	0.067	12/7/2021	12/20/2021
PB-885-23	DUP-23	3	3.5	Benzene	SW8260C	Soil	ND	0.034	12/7/2021	12/20/2021
PB-885-23	DUP-23	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.13	12/7/2021	12/20/2021
PB-885-23	DUP-23	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.067	12/7/2021	12/20/2021
PB-885-23	DUP-23	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.034	12/7/2021	12/20/2021
PB-885-23	DUP-23	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.054	0.13	12/7/2021	12/20/2021
PB-885-23	DUP-23	3	3.5	Xylenes (total)	SW8260C	Soil	0.101	0.13	12/7/2021	12/20/2021
PB-885-23	DUP-23	3	3.5	Anthracene	SW8270D	Soil	3.7	2.4	12/7/2021	12/21/2021
PB-885-23	PB-885-23-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	12/7/2021	12/21/2021
PB-885-23	PB-885-23-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	12/7/2021	12/21/2021
PB-885-23	PB-885-23-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	12/7/2021	12/21/2021
PB-885-23	PB-885-23-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0023	12/7/2021	12/17/2021
PB-885-23	PB-885-23-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	12/7/2021	12/21/2021
PB-885-23	PB-885-23-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	12/7/2021	12/21/2021
PB-885-23	PB-885-23-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	12/7/2021	12/21/2021
PB-885-23	PB-885-23-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	12/7/2021	12/21/2021
PB-885-23	PB-885-23-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	12/7/2021	12/21/2021
PB-885-23	PB-885-23-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	12/7/2021	12/21/2021
PB-885-23	PB-885-23-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0023	12/7/2021	12/17/2021
PB-885-23	PB-885-23-SS01	3	3.5	Lead	SW6010D	Soil	2.8	2.08	12/7/2021	12/21/2021
PB-885-23	PB-885-23-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00058	12/7/2021	12/17/2021
PB-885-23	PB-885-23-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	12/7/2021	12/17/2021
PB-885-23	PB-885-23-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0023	12/7/2021	12/17/2021
PB-885-23	PB-885-23-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	12/7/2021	12/17/2021
PB-885-23	PB-885-23-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	12/7/2021	12/17/2021
PB-885-23	PB-885-23-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	12/7/2021	12/17/2021
PB-885-23	PB-885-23-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0023	12/7/2021	12/17/2021
PB-885-23	PB-885-23-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00058	12/7/2021	12/17/2021
PB-885-23	PB-885-23-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	12/7/2021	12/21/2021
PB-885-24	PB-885-24-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-24	PB-885-24-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-885-24	PB-885-24-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-24	PB-885-24-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-885-24	PB-885-24-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022

Table 11 - 059A (PB 885)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-885-24	PB-885-24-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-885-24	PB-885-24-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-24	PB-885-24-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-24	PB-885-24-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	7/15/2022	7/19/2022
PB-885-24	PB-885-24-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-885-24	PB-885-24-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00058	7/15/2022	7/19/2022
PB-885-24	PB-885-24-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-885-24	PB-885-24-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0023	7/15/2022	7/19/2022
PB-885-24	PB-885-24-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0023	7/15/2022	7/19/2022
PB-885-24	PB-885-24-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/15/2022	7/19/2022
PB-885-24	PB-885-24-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0023	7/15/2022	7/19/2022
PB-885-24	PB-885-24-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00058	7/15/2022	7/19/2022
PB-885-24	PB-885-24-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	7/15/2022	7/19/2022
PB-885-24	PB-885-24-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/15/2022	7/19/2022
PB-885-24	PB-885-24-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0023	7/15/2022	7/19/2022
PB-885-24	PB-885-24-SS01	3	3.5	Lead	SW6010D	Soil	1.63	2.16	7/15/2022	7/21/2022
PB-885-25	PB-885-25-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00085	7/14/2022	7/19/2022
PB-885-25	PB-885-25-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-25	PB-885-25-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-25	PB-885-25-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-25	PB-885-25-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-885-25	PB-885-25-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	7/14/2022	7/16/2022
PB-885-25	PB-885-25-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-25	PB-885-25-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-885-25	PB-885-25-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-25	PB-885-25-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/14/2022	7/16/2022
PB-885-25	PB-885-25-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00042	7/14/2022	7/19/2022
PB-885-25	PB-885-25-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	7/14/2022	7/16/2022
PB-885-25	PB-885-25-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0017	7/14/2022	7/19/2022
PB-885-25	PB-885-25-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/14/2022	7/19/2022
PB-885-25	PB-885-25-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00085	7/14/2022	7/19/2022
PB-885-25	PB-885-25-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/14/2022	7/19/2022
PB-885-25	PB-885-25-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00042	7/14/2022	7/19/2022
PB-885-25	PB-885-25-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00085	7/14/2022	7/19/2022
PB-885-25	PB-885-25-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00085	7/14/2022	7/19/2022
PB-885-25	PB-885-25-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0017	7/14/2022	7/19/2022
PB-885-25	PB-885-25-SS01	3	3.5	Lead	SW6010D	Soil	1.5	1.97	7/14/2022	7/20/2022
PB-885-26	PB-885-26-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	12/7/2021	12/17/2021
PB-885-26	PB-885-26-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	12/7/2021	12/21/2021
PB-885-26	PB-885-26-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	12/7/2021	12/21/2021
PB-885-26	PB-885-26-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	12/7/2021	12/21/2021
PB-885-26	PB-885-26-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	12/7/2021	12/21/2021
PB-885-26	PB-885-26-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	12/7/2021	12/21/2021
PB-885-26	PB-885-26-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	12/7/2021	12/21/2021
PB-885-26	PB-885-26-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	12/7/2021	12/21/2021
PB-885-26	PB-885-26-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	12/7/2021	12/21/2021
PB-885-26	PB-885-26-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	12/7/2021	12/21/2021
PB-885-26	PB-885-26-SS01	3	3.5	Lead	SW6010D	Soil	2.28	2.05	12/7/2021	12/21/2021
PB-885-26	PB-885-26-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0024	12/7/2021	12/17/2021
PB-885-26	PB-885-26-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	12/7/2021	12/17/2021
PB-885-26	PB-885-26-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	12/7/2021	12/17/2021
PB-885-26	PB-885-26-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0006	12/7/2021	12/17/2021
PB-885-26	PB-885-26-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0024	12/7/2021	12/17/2021
PB-885-26	PB-885-26-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	12/7/2021	12/17/2021
PB-885-26	PB-885-26-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0006	12/7/2021	12/17/2021
PB-885-26	PB-885-26-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0024	12/7/2021	12/17/2021
PB-885-26	PB-885-26-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0024	12/7/2021	12/17/2021
PB-885-26	PB-885-26-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	12/7/2021	12/21/2021

Notes:
SS -- Soil Sample.
DUP-23 is a field duplicate associated with sample PB-885-23-SS01.
DUP-45 is a field duplicate associated with sample PB-885-17-SS01.



PB-885-01
PB-885-02
PB-885-03
PB-885-04
PB-885-05
PB-885-06
PB-885-07
PB-885-08
PB-885-09
PB-885-10
PB-885-11
PB-885-12
PB-885-13
PB-885-14
PB-885-15
PB-885-16
PB-885-17
PB-885-18
PB-885-19
PB-885-20
PB-885-21
PB-885-22
PB-885-23
PB-885-24
PB-885-25
PB-885-26

PB 885

Legend

Tank Group

04

Associated Piping

PESRM Soil Sample Location

0 50 100 Feet

1 inch = 50 feet

N

SAFETY FIRST

terraphase engineering

CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

Site Location and Sampling Map 059A (PB 885)

Figure 11

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For AST Closure Report\Figure 11 - 059A (PB 885).mxd 12/30/2022 Created by: JD Checked by: Initial Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

Product Movement and Waste Disposal Documentation (Tank 059A)

NorthStar Contracting Group, Inc.

PES Project Load Ticket

#S120103

Load Ticket: 14728

Date: 08-30-21

Scrap

Sold to: Allegheny

Location: Tank 085

Carrier: Allegheny

Steel / Ferrous

- ☐ No. 1 P+S
- ☐ No. 2 Heavy Melt
- ☐ Cast Iron
- ☐ Mixed
- ☐ Pipe
- ☐ Light Iron
- ☐ Re-Bar
- ☐ Other _____

Non-Ferrous

- ☐ Insulated Copper Wire
- ☐ No. 1 Copper Wire
- ☐ Brass
- ☐ Aluminum
- ☐ Stainless, Grade_____
- ☐ Other Alloy, Grade_____
- ☐ Mixed
- ☐ Other: _____

Condition

- ☐ Prepared
- ☐ Unprepared
- ☐ Green Waste
- ☐ Concrete
- ☐ Masonry
- ☐ Mixed Masonry
- ☐ Wood Only
- ☐ Demo Debris (C&D)
- ☐ Dirt / Fill
- ☐ Sand Fill
- ☐ Crushed Stone
- ☐ Other:_____

Scale Ticket #:_____

Gross Weight: 72520 lbs

Tare Weight: 40000 lbs

Net Weight: 32520 lbs

NorthStar Rep. Signature: _____

Received By: _____

Non-Haz / ACM / Special Waste

Activity Location: _____

Waste Stream

- ☐ C&D Demolition Debris
- ☐ Non-Friable ACM
- ☐ Friable ACM
- ☐ PB WWTP Sludge
- ☐ GP WWTP Sludge
- ☐ Characteristic Haz Waste (flammable D001, corrosive D002, reactive D003, toxicity D004 –D043)
- ☐ Process Haz Waste
- ☐ Demo Debris (C&D)
- ☐ Non-Haz Waste (Solid)
- ☐ Non-Haz Waste (Liquid)
- ☐ PCB (Non-TSCA)
- ☐ PCB (TSCA)

Disposal Facility:_____

Carrier:_____

Truck #:_____

Container #:_____

Manifest #:_____

Profile / Approval #:_____

Scale Info

Scale Ticket #:_____

Gross Weight:_____

Tare weight:_____

Net weight:_____

Net Kilogram Conversion (PCB Only):_____

NorthStar Rep. Signature:_____

HILCO REDEVELOPEMENT PARTNERS
3144 W. PASSYUNK AVE

PHILADELPHIA PA, 19145

Ticket #: 20029735
Date: 08/30/2021 7:37 AM
Phone: ( ) -
Fax: ( ) -

Customer: HILCO
HILCO

,

Order Number: 001
SCRAP REMOVAL
Tons: 52984.176
Loads: 3582

DT261-2 - ALLEGHENY TRUCK 261 W/TRAILER 2
CARLAD - CARLA DAVILA

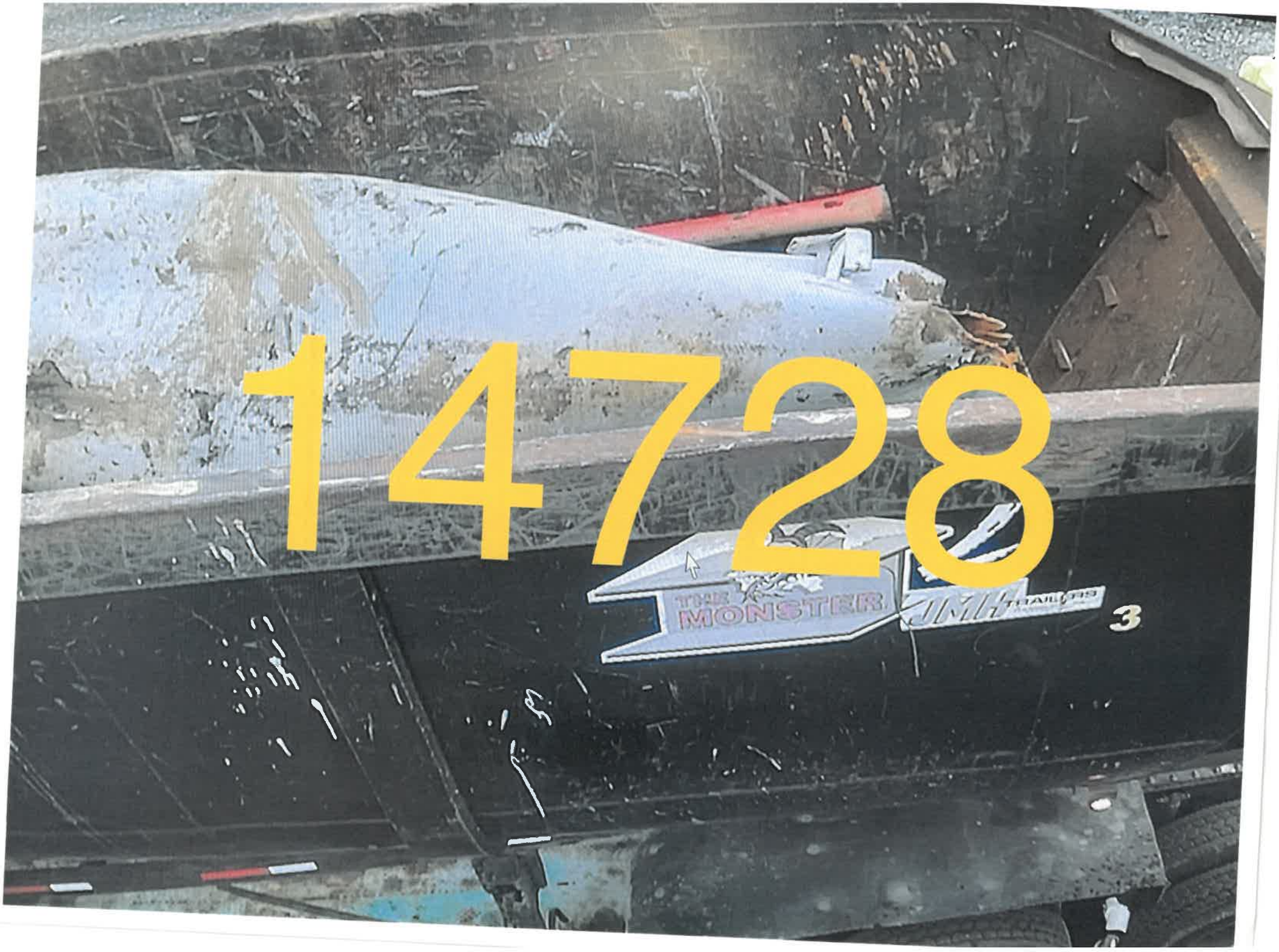
Remarks: SCRAP REMOVAL

Signature: _____

Material	Quantity	Price	Material $	Delivery $	Misc $	Tax $	Line Total $
SCRAP	16.26 tn						

Weight Information

Material	Gross	Tare	Net
SCRAP	72520.00	40000.00	32520.00


14728
THE MONSTER
3

ABOVEGROUND STORAGE TANK SYSTEM CLOSURE REPORT FORM

SECTION III. Site Assessment Information

Tank Registration # 012A (complete one sheet for EACH tank system and attach ALL laboratory sheets pertaining to that system)

Facility ID Number 51 - 33620

A. Provide depth of *BEDROCK* and *WATER* IF encountered during excavation or soil boring (write "N/A": if NOT encountered).

Bedrock N/A feet below land surface Water 15 feet below land surface

B. Provide Length of *PIPING* IF piping was closed-in-place (write "N/A" if NOT closed-in-place).

Length of piping N/A feet

C. TANK SYSTEM REMOVED FROM THE GROUND/SITE

1). Was obvious contamination observed while excavating, sampling or removing the tank system?

☒ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records ----→ Do not complete item C.2. below.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

---→ Complete item C.2. below.

2). Was contamination localized (within three feet of the tank system in every direction with no obvious water contamination)?

☐ YES ----→ Remove or remediate contaminated soil ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ NO ----→ Continue Interim Remedial Actions ----→ See end of this section for options on submission and maintenance of closure records.

D. TANK SYSTEM CLOSED-IN-PLACE OR CHANGED-IN-SERVICE

Was obvious contamination observed during sampling, boring or assessing water depths?

☐ NO ----→ Conduct confirmatory sampling ----→ See end of this section for options on submission and maintenance of closure records.

☐ YES ----→ Report release to DEP within 24 hours ----→ Describe contamination observed and likely source(s) (tank, piping, dispenser, spills, overfills):

Continue with corrective action ----→ See end of this section for options on submission and maintenance of closure records.

E. If the answer to C.1. is "no", the answer to C.2. is "yes" or the answer to D. is "no", confirmatory samples are required. Use the sample/analysis information sheet on page 10 of 11 to provide the information on confirmatory sampling and complete the diagram on Page 11 of 11.

Options for Submission and Maintenance of Closure Site Assessment Records

Records of the site assessment must be maintained for at least three years after completion of permanent closure or change-in-service in one of the following ways:

(a) By the owners and operators who took the tank system out of service;
(b) By the current owners and operators of the tank system site; or
(c) By mailing these records to the DEP regional office responsible for the county in which the tank is located if they cannot be maintained at the closed facility.

Where the results of the site assessment indicate that obvious, localized soil contamination was encountered and the analytical results of the confirmatory sampling show levels below the statewide standard/action levels, this closure report form (Sections I, II, and III) or some other acceptable site characterization report must be received by the Department within 180 days of verbally reporting the release.

Where the results of the site assessment indicate that no obvious contamination or obvious, localized contamination was encountered, but the analytical results of the confirmatory sampling show levels above the statewide standard/action levels, or where there is obvious, extensive contamination, Section 245.310(a)(8) of the Corrective Action Process (CAP) regulations requires that details of removal from service be included in the site characterization report. A copy of the completed closure report form should be submitted as part of the site characterization report to satisfy the requirements of Section 245.310(a)(8) of the CAP regulations.

I, Kevin Long , hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating to unsworn
(Print Name)
falsification to authorities) that I am the person who performed the site assessment activities associated with the closure of the above referenced storage tank system(s) and that the information provided by me in this closure report (Section III) is true, accurate and complete to the best of my knowledge and belief.

Kevin L. Long

Signature of Person Performing Site Assessment

2 / 1 / 2023
Date

Principal Consultant
Title of Person Performing Site Assessment

Terraphase Engineering, Inc.
Name of Company Performing Site Assessment

609-236-8171 x93
Telephone Number of Person Performing Site Assessment

ABOVEGROUND STORAGE TANK SYSTEM
CLOSURE REPORT FORM

Sample/Analysis Information
(Attachment for Section III.)

Facility ID Number 51 - 33620

Sample I.D. (See diagram)	Parameter	Analytical Method[1]		Media	Result (units)	Detection Limit (units)	Date Sample Taken	Date Sample Analyzed
See attached summary table							/ /	/ /
							/ /	/ /
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[1] Where EPA Method 5035 is used, indicate sample collection option in the right-hand box of this column using the following codes:

P - Samples placed in a soil sample vial with a preservative present.
E - Samples collected and stored in a soil collection device which is airtight and affords little to no headspace.

N - Samples placed in soil sample vial without a preservative present.

Site Location and Sampling Map - Use this page or suitable facsimile to provide a large-scale map of the site where storage tank systems were closed. Scales between 1" = 10 and 1" = 100 feet frequently work well. Include the following information as each applies to the site: facility name and I.D., county, township or borough, property boundaries or area of interest, buildings, roads and streets with names or route numbers, utilities, location and ID number of storage tank systems removed including piping and dispensers, soil stockpile locations, excavations or other locations of product recovery, north arrow, approximate map scale and legend. Also, show depth and location of samples with sample ID numbers cross-referenced to the same ID numbers shown on Page 10 of 11.

Facility Name and ID: -

County:

Township/Borough: See attached Figure

Table 2 - 012A (PB 886)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-886-01	PB-886-01-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	10/7/2021	10/11/2021
PB-886-01	PB-886-01-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-01	PB-886-01-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	10/7/2021	10/11/2021
PB-886-01	PB-886-01-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-01	PB-886-01-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	10/7/2021	10/11/2021
PB-886-01	PB-886-01-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	10/7/2021	10/11/2021
PB-886-01	PB-886-01-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-01	PB-886-01-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-01	PB-886-01-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00097	10/7/2021	10/13/2021
PB-886-01	PB-886-01-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-01	PB-886-01-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00048	10/7/2021	10/13/2021
PB-886-01	PB-886-01-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0019	10/7/2021	10/13/2021
PB-886-01	PB-886-01-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0019	10/7/2021	10/13/2021
PB-886-01	PB-886-01-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00097	10/7/2021	10/13/2021
PB-886-01	PB-886-01-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0019	10/7/2021	10/13/2021
PB-886-01	PB-886-01-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00048	10/7/2021	10/13/2021
PB-886-01	PB-886-01-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00097	10/7/2021	10/13/2021
PB-886-01	PB-886-01-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00097	10/7/2021	10/13/2021
PB-886-01	PB-886-01-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0019	10/7/2021	10/13/2021
PB-886-01	PB-886-01-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-01	PB-886-01-SS01	3	3.5	Lead	SW6010D	Soil	6.35	4.55	10/7/2021	10/13/2021
PB-886-02	PB-886-02-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00091	10/7/2021	10/12/2021
PB-886-02	PB-886-02-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-02	PB-886-02-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	10/7/2021	10/11/2021
PB-886-02	PB-886-02-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	10/7/2021	10/11/2021
PB-886-02	PB-886-02-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-02	PB-886-02-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	10/7/2021	10/11/2021
PB-886-02	PB-886-02-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-02	PB-886-02-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	10/7/2021	10/11/2021
PB-886-02	PB-886-02-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-02	PB-886-02-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-02	PB-886-02-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	10/7/2021	10/12/2021
PB-886-02	PB-886-02-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-02	PB-886-02-SS01	3	3.5	Lead	SW6010D	Soil	5.8	4.64	10/7/2021	10/13/2021
PB-886-02	PB-886-02-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	10/7/2021	10/12/2021
PB-886-02	PB-886-02-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00046	10/7/2021	10/12/2021
PB-886-02	PB-886-02-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00091	10/7/2021	10/12/2021
PB-886-02	PB-886-02-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	10/7/2021	10/12/2021
PB-886-02	PB-886-02-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00046	10/7/2021	10/12/2021
PB-886-02	PB-886-02-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00091	10/7/2021	10/12/2021
PB-886-02	PB-886-02-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00091	10/7/2021	10/12/2021
PB-886-02	PB-886-02-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	10/7/2021	10/12/2021
PB-886-03	PB-886-03-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	10/7/2021	10/12/2021
PB-886-03	PB-886-03-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	10/7/2021	10/14/2021
PB-886-03	PB-886-03-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	10/7/2021	10/14/2021
PB-886-03	PB-886-03-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	10/7/2021	10/14/2021
PB-886-03	PB-886-03-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	10/7/2021	10/14/2021
PB-886-03	PB-886-03-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	10/7/2021	10/14/2021
PB-886-03	PB-886-03-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	10/7/2021	10/14/2021
PB-886-03	PB-886-03-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	10/7/2021	10/14/2021
PB-886-03	PB-886-03-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	10/7/2021	10/14/2021
PB-886-03	PB-886-03-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	10/7/2021	10/14/2021
PB-886-03	PB-886-03-SS01	3	3.5	Lead	SW6010D	Soil	6.5	4.81	10/7/2021	10/13/2021
PB-886-03	PB-886-03-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	10/7/2021	10/12/2021
PB-886-03	PB-886-03-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	10/7/2021	10/12/2021
PB-886-03	PB-886-03-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	10/7/2021	10/12/2021
PB-886-03	PB-886-03-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00051	10/7/2021	10/12/2021
PB-886-03	PB-886-03-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	10/7/2021	10/12/2021
PB-886-03	PB-886-03-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	10/7/2021	10/12/2021
PB-886-03	PB-886-03-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00051	10/7/2021	10/12/2021
PB-886-03	PB-886-03-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	10/7/2021	10/12/2021
PB-886-03	PB-886-03-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	10/7/2021	10/14/2021
PB-886-03	PB-886-03-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	10/7/2021	10/12/2021
PB-886-04	PB-886-04-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-04	PB-886-04-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	10/7/2021	10/11/2021
PB-886-04	PB-886-04-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-04	PB-886-04-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	10/7/2021	10/11/2021
PB-886-04	PB-886-04-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-04	PB-886-04-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	10/7/2021	10/11/2021
PB-886-04	PB-886-04-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	10/7/2021	10/11/2021
PB-886-04	PB-886-04-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-04	PB-886-04-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	10/7/2021	10/12/2021
PB-886-04	PB-886-04-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.043	0.12	10/7/2021	10/11/2021
PB-886-04	PB-886-04-SS01	3	3.5	Lead	SW6010D	Soil	8.09	4.65	10/7/2021	10/13/2021
PB-886-04	PB-886-04-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	10/7/2021	10/12/2021
PB-886-04	PB-886-04-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	0.00014	0.001	10/7/2021	10/12/2021
PB-886-04	PB-886-04-SS01	3	3.5	Cumene	SW8260C	Soil	0.00018	0.001	10/7/2021	10/12/2021
PB-886-04	PB-886-04-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0005	10/7/2021	10/12/2021
PB-886-04	PB-886-04-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	10/7/2021	10/12/2021
PB-886-04	PB-886-04-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	10/7/2021	10/12/2021
PB-886-04	PB-886-04-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0005	10/7/2021	10/12/2021
PB-886-04	PB-886-04-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	10/7/2021	10/12/2021
PB-886-04	PB-886-04-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	10/7/2021	10/12/2021
PB-886-04	PB-886-04-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-05	PB-886-05-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	10/7/2021	10/11/2021
PB-886-05	PB-886-05-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-05	PB-886-05-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	10/7/2021	10/11/2021
PB-886-05	PB-886-05-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-05	PB-886-05-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	10/7/2021	10/11/2021
PB-886-05	PB-886-05-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	10/7/2021	10/11/2021
PB-886-05	PB-886-05-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-05	PB-886-05-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-05	PB-886-05-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00084	10/7/2021	10/12/2021
PB-886-05	PB-886-05-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-05	PB-886-05-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00042	10/7/2021	10/12/2021
PB-886-05	PB-886-05-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0017	10/7/2021	10/12/2021
PB-886-05	PB-886-05-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0017	10/7/2021	10/12/2021
PB-886-05	PB-886-05-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00084	10/7/2021	10/12/2021
PB-886-05	PB-886-05-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0017	10/7/2021	10/12/2021
PB-886-05	PB-886-05-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00042	10/7/2021	10/12/2021
PB-886-05	PB-886-05-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00084	10/7/2021	10/12/2021
PB-886-05	PB-886-05-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00084	10/7/2021	10/12/2021
PB-886-05	PB-886-05-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0017	10/7/2021	10/12/2021
PB-886-05	PB-886-05-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-05	PB-886-05-SS01	3	3.5	Lead	SW6010D	Soil	2.94	4.12	10/7/2021	10/13/2021
PB-886-06	PB-886-06-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	7/15/2022	7/19/2022

Table 2 - 012A (PB 886)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-886-06	PB-886-06-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-06	PB-886-06-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-886-06	PB-886-06-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-886-06	PB-886-06-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-06	PB-886-06-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-06	PB-886-06-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-06	PB-886-06-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-06	PB-886-06-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-06	PB-886-06-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-06	PB-886-06-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/15/2022	7/19/2022
PB-886-06	PB-886-06-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-06	PB-886-06-SS01	3	3.5	Lead	SW6010D	Soil	2.26	2.2	7/15/2022	7/18/2022
PB-886-06	PB-886-06-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0021	7/15/2022	7/19/2022
PB-886-06	PB-886-06-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00054	7/15/2022	7/19/2022
PB-886-06	PB-886-06-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	7/15/2022	7/19/2022
PB-886-06	PB-886-06-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0021	7/15/2022	7/19/2022
PB-886-06	PB-886-06-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00054	7/15/2022	7/19/2022
PB-886-06	PB-886-06-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	7/15/2022	7/19/2022
PB-886-06	PB-886-06-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	7/15/2022	7/19/2022
PB-886-06	PB-886-06-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0021	7/15/2022	7/19/2022
PB-886-07	PB-886-07-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0024	7/15/2022	7/19/2022
PB-886-07	PB-886-07-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-07	PB-886-07-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-886-07	PB-886-07-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-886-07	PB-886-07-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-07	PB-886-07-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-07	PB-886-07-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-07	PB-886-07-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-07	PB-886-07-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-07	PB-886-07-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-07	PB-886-07-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0047	7/15/2022	7/19/2022
PB-886-07	PB-886-07-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-07	PB-886-07-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0047	7/15/2022	7/19/2022
PB-886-07	PB-886-07-SS01	3	3.5	Lead	SW6010D	Soil	2.62	2.23	7/15/2022	7/18/2022
PB-886-07	PB-886-07-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0012	7/15/2022	7/19/2022
PB-886-07	PB-886-07-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0024	7/15/2022	7/19/2022
PB-886-07	PB-886-07-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0047	7/15/2022	7/19/2022
PB-886-07	PB-886-07-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0012	7/15/2022	7/19/2022
PB-886-07	PB-886-07-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0024	7/15/2022	7/19/2022
PB-886-07	PB-886-07-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0024	7/15/2022	7/19/2022
PB-886-07	PB-886-07-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0047	7/15/2022	7/19/2022
PB-886-08	PB-886-08-SS01	4.5	5	Toluene	SW8260C	Soil	ND	0.075	10/7/2021	10/13/2021
PB-886-08	PB-886-08-SS01	4.5	5	Naphthalene	SW8270D	Soil	0.062	0.18	10/7/2021	10/11/2021
PB-886-08	PB-886-08-SS01	4.5	5	Fluorene	SW8270D	Soil	0.88	0.18	10/7/2021	10/11/2021
PB-886-08	PB-886-08-SS01	4.5	5	Chrysene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-08	PB-886-08-SS01	4.5	5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	10/7/2021	10/11/2021
PB-886-08	PB-886-08-SS01	4.5	5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-08	PB-886-08-SS01	4.5	5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	10/7/2021	10/11/2021
PB-886-08	PB-886-08-SS01	4.5	5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-08	PB-886-08-SS01	4.5	5	Pyrene	SW8270D	Soil	0.1	0.1	10/7/2021	10/11/2021
PB-886-08	PB-886-08-SS01	4.5	5	Phenanthrene	SW8270D	Soil	1.7	0.1	10/7/2021	10/11/2021
PB-886-08	PB-886-08-SS01	4.5	5	Lead	SW6010D	Soil	81.9	2.1	10/7/2021	10/12/2021
PB-886-08	PB-886-08-SS01	4.5	5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.15	10/7/2021	10/13/2021
PB-886-08	PB-886-08-SS01	4.5	5	Ethyl Benzene	SW8260C	Soil	ND	0.075	10/7/2021	10/13/2021
PB-886-08	PB-886-08-SS01	4.5	5	Cumene	SW8260C	Soil	0.015	0.075	10/7/2021	10/13/2021
PB-886-08	PB-886-08-SS01	4.5	5	Benzene	SW8260C	Soil	ND	0.038	10/7/2021	10/13/2021
PB-886-08	PB-886-08-SS01	4.5	5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.15	10/7/2021	10/13/2021
PB-886-08	PB-886-08-SS01	4.5	5	1,2-Dichloroethane	SW8260C	Soil	ND	0.075	10/7/2021	10/13/2021
PB-886-08	PB-886-08-SS01	4.5	5	1,2-Dibromoethane	SW8260C	Soil	ND	0.038	10/7/2021	10/13/2021
PB-886-08	PB-886-08-SS01	4.5	5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.15	10/7/2021	10/13/2021
PB-886-08	PB-886-08-SS01	4.5	5	Xylenes (total)	SW8260C	Soil	ND	0.15	10/7/2021	10/13/2021
PB-886-08	PB-886-08-SS01	4.5	5	Anthracene	SW8270D	Soil	0.32	0.1	10/7/2021	10/11/2021
PB-886-09	DUP-21	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	10/7/2021	10/12/2021
PB-886-09	DUP-21	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	10/7/2021	10/12/2021
PB-886-09	DUP-21	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	10/7/2021	10/12/2021
PB-886-09	DUP-21	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	10/7/2021	10/12/2021
PB-886-09	DUP-21	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	10/7/2021	10/12/2021
PB-886-09	DUP-21	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	10/7/2021	10/12/2021
PB-886-09	DUP-21	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	10/7/2021	10/12/2021
PB-886-09	DUP-21	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	10/7/2021	10/12/2021
PB-886-09	DUP-21	3	3.5	Toluene	SW8260C	Soil	ND	0.0013	10/7/2021	10/13/2021
PB-886-09	DUP-21	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	10/7/2021	10/12/2021
PB-886-09	DUP-21	3	3.5	Lead	SW6010D	Soil	1.87	2.09	10/7/2021	10/13/2021
PB-886-09	DUP-21	3	3.5	Xylenes (total)	SW8260C	Soil	0.00207	0.0025	10/7/2021	10/13/2021
PB-886-09	DUP-21	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	10/7/2021	10/12/2021
PB-886-09	DUP-21	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.025	0.0025	10/7/2021	10/13/2021
PB-886-09	DUP-21	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00063	10/7/2021	10/13/2021
PB-886-09	DUP-21	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0013	10/7/2021	10/13/2021
PB-886-09	DUP-21	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.024	0.0025	10/7/2021	10/13/2021
PB-886-09	DUP-21	3	3.5	Benzene	SW8260C	Soil	ND	0.00063	10/7/2021	10/13/2021
PB-886-09	DUP-21	3	3.5	Cumene	SW8260C	Soil	0.00098	0.0013	10/7/2021	10/13/2021
PB-886-09	DUP-21	3	3.5	Ethyl Benzene	SW8260C	Soil	0.00033	0.0013	10/7/2021	10/13/2021
PB-886-09	DUP-21	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0025	10/7/2021	10/13/2021
PB-886-09	PB-886-09-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0009	10/7/2021	10/12/2021
PB-886-09	PB-886-09-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-09	PB-886-09-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	10/7/2021	10/11/2021
PB-886-09	PB-886-09-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	10/7/2021	10/11/2021
PB-886-09	PB-886-09-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-09	PB-886-09-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	10/7/2021	10/11/2021
PB-886-09	PB-886-09-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-09	PB-886-09-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	10/7/2021	10/11/2021
PB-886-09	PB-886-09-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-09	PB-886-09-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-09	PB-886-09-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	10/7/2021	10/12/2021
PB-886-09	PB-886-09-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-09	PB-886-09-SS01	3	3.5	Lead	SW6010D	Soil	1.76	2.1	10/7/2021	10/13/2021
PB-886-09	PB-886-09-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	10/7/2021	10/12/2021
PB-886-09	PB-886-09-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00045	10/7/2021	10/12/2021
PB-886-09	PB-886-09-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0009	10/7/2021	10/12/2021
PB-886-09	PB-886-09-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	10/7/2021	10/12/2021
PB-886-09	PB-886-09-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00045	10/7/2021	10/12/2021
PB-886-09	PB-886-09-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0009	10/7/2021	10/12/2021
PB-886-09	PB-886-09-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0009	10/7/2021	10/12/2021
PB-886-09	PB-886-09-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	10/7/2021	10/12/2021
PB-886-10	PB-886-10-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	7/15/2022	7/19/2022
PB-886-10	PB-886-10-SS01	3	3.5	Naphthalene	SW8270D	Soil	0.041	0.18	7/15/2022	7/18/2022

Table 2 - 012A (PB 886)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-886-10	PB-886-10-SS01	3	3.5	Fluorene	SW8270D	Soil	0.35	0.18	7/15/2022	7/18/2022
PB-886-10	PB-886-10-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-10	PB-886-10-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/15/2022	7/18/2022
PB-886-10	PB-886-10-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-10	PB-886-10-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/15/2022	7/18/2022
PB-886-10	PB-886-10-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-10	PB-886-10-SS01	3	3.5	Pyrene	SW8270D	Soil	0.049	0.11	7/15/2022	7/18/2022
PB-886-10	PB-886-10-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.78	0.11	7/15/2022	7/18/2022
PB-886-10	PB-886-10-SS01	3	3.5	Lead	SW6010D	Soil	1.97	2.11	7/15/2022	7/18/2022
PB-886-10	PB-886-10-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0024	7/15/2022	7/19/2022
PB-886-10	PB-886-10-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/15/2022	7/19/2022
PB-886-10	PB-886-10-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	7/15/2022	7/19/2022
PB-886-10	PB-886-10-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0006	7/15/2022	7/19/2022
PB-886-10	PB-886-10-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.0014	0.0024	7/15/2022	7/19/2022
PB-886-10	PB-886-10-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/15/2022	7/19/2022
PB-886-10	PB-886-10-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0006	7/15/2022	7/19/2022
PB-886-10	PB-886-10-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.00084	0.0024	7/15/2022	7/19/2022
PB-886-10	PB-886-10-SS01	3	3.5	Anthracene	SW8270D	Soil	0.16	0.11	7/15/2022	7/18/2022
PB-886-10	PB-886-10-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.00173	0.0024	7/15/2022	7/19/2022
PB-886-11	PB-886-11-SS01	3.5	4	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	10/7/2021	10/11/2021
PB-886-11	PB-886-11-SS01	3.5	4	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	10/7/2021	10/11/2021
PB-886-11	PB-886-11-SS01	3.5	4	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	10/7/2021	10/11/2021
PB-886-11	PB-886-11-SS01	3.5	4	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	10/7/2021	10/11/2021
PB-886-11	PB-886-11-SS01	3.5	4	Chrysene	SW8270D	Soil	ND	0.11	10/7/2021	10/11/2021
PB-886-11	PB-886-11-SS01	3.5	4	Fluorene	SW8270D	Soil	ND	0.18	10/7/2021	10/11/2021
PB-886-11	PB-886-11-SS01	3.5	4	Naphthalene	SW8270D	Soil	ND	0.18	10/7/2021	10/11/2021
PB-886-11	PB-886-11-SS01	3.5	4	Pyrene	SW8270D	Soil	ND	0.11	10/7/2021	10/11/2021
PB-886-11	PB-886-11-SS01	3.5	4	Toluene	SW8260C	Soil	ND	0.0012	10/7/2021	10/13/2021
PB-886-11	PB-886-11-SS01	3.5	4	Phenanthrene	SW8270D	Soil	ND	0.11	10/7/2021	10/11/2021
PB-886-11	PB-886-11-SS01	3.5	4	Lead	SW6010D	Soil	11.7	2.14	10/7/2021	10/13/2021
PB-886-11	PB-886-11-SS01	3.5	4	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0024	10/7/2021	10/13/2021
PB-886-11	PB-886-11-SS01	3.5	4	Ethyl Benzene	SW8260C	Soil	ND	0.0012	10/7/2021	10/13/2021
PB-886-11	PB-886-11-SS01	3.5	4	Cumene	SW8260C	Soil	ND	0.0012	10/7/2021	10/13/2021
PB-886-11	PB-886-11-SS01	3.5	4	Benzene	SW8260C	Soil	ND	0.00059	10/7/2021	10/13/2021
PB-886-11	PB-886-11-SS01	3.5	4	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0024	10/7/2021	10/13/2021
PB-886-11	PB-886-11-SS01	3.5	4	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	10/7/2021	10/13/2021
PB-886-11	PB-886-11-SS01	3.5	4	1,2-Dibromoethane	SW8260C	Soil	ND	0.00059	10/7/2021	10/13/2021
PB-886-11	PB-886-11-SS01	3.5	4	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0024	10/7/2021	10/13/2021
PB-886-11	PB-886-11-SS01	3.5	4	Xylenes (total)	SW8260C	Soil	ND	0.0024	10/7/2021	10/13/2021
PB-886-11	PB-886-11-SS01	3.5	4	Anthracene	SW8270D	Soil	ND	0.11	10/7/2021	10/11/2021
PB-886-12	PB-886-12-SS01	4	4.5	Anthracene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-12	PB-886-12-SS01	4	4.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-12	PB-886-12-SS01	4	4.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	10/7/2021	10/11/2021
PB-886-12	PB-886-12-SS01	4	4.5	Pyrene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-12	PB-886-12-SS01	4	4.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	10/7/2021	10/11/2021
PB-886-12	PB-886-12-SS01	4	4.5	Xylenes (total)	SW8260C	Soil	0.00194	0.0029	10/7/2021	10/13/2021
PB-886-12	PB-886-12-SS01	4	4.5	Fluorene	SW8270D	Soil	0.044	0.19	10/7/2021	10/11/2021
PB-886-12	PB-886-12-SS01	4	4.5	Naphthalene	SW8270D	Soil	ND	0.19	10/7/2021	10/11/2021
PB-886-12	PB-886-12-SS01	4	4.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-12	PB-886-12-SS01	4	4.5	Phenanthrene	SW8270D	Soil	0.12	0.12	10/7/2021	10/11/2021
PB-886-12	PB-886-12-SS01	4	4.5	Lead	SW6010D	Soil	5.66	4.58	10/7/2021	10/13/2021
PB-886-12	PB-886-12-SS01	4	4.5	Toluene	SW8260C	Soil	ND	0.0014	10/7/2021	10/13/2021
PB-886-12	PB-886-12-SS01	4	4.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.0011	0.0029	10/7/2021	10/13/2021
PB-886-12	PB-886-12-SS01	4	4.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00072	10/7/2021	10/13/2021
PB-886-12	PB-886-12-SS01	4	4.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0014	10/7/2021	10/13/2021
PB-886-12	PB-886-12-SS01	4	4.5	Benzene	SW8260C	Soil	ND	0.00072	10/7/2021	10/13/2021
PB-886-12	PB-886-12-SS01	4	4.5	Cumene	SW8260C	Soil	ND	0.0014	10/7/2021	10/13/2021
PB-886-12	PB-886-12-SS01	4	4.5	Ethyl Benzene	SW8260C	Soil	ND	0.0014	10/7/2021	10/13/2021
PB-886-12	PB-886-12-SS01	4	4.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0029	10/7/2021	10/13/2021
PB-886-12	PB-886-12-SS01	4	4.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.0014	0.0029	10/7/2021	10/13/2021
PB-886-12	PB-886-12-SS01	4	4.5	Chrysene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-13	PB-886-13-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-13	PB-886-13-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-13	PB-886-13-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-13	PB-886-13-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-13	PB-886-13-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-13	PB-886-13-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-886-13	PB-886-13-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-13	PB-886-13-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-13	PB-886-13-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0021	7/15/2022	7/19/2022
PB-886-13	PB-886-13-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-886-13	PB-886-13-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0011	7/15/2022	7/19/2022
PB-886-13	PB-886-13-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-13	PB-886-13-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0043	7/15/2022	7/19/2022
PB-886-13	PB-886-13-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0043	7/15/2022	7/19/2022
PB-886-13	PB-886-13-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0021	7/15/2022	7/19/2022
PB-886-13	PB-886-13-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0043	7/15/2022	7/19/2022
PB-886-13	PB-886-13-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0011	7/15/2022	7/19/2022
PB-886-13	PB-886-13-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0021	7/15/2022	7/19/2022
PB-886-13	PB-886-13-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0021	7/15/2022	7/19/2022
PB-886-13	PB-886-13-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0043	7/15/2022	7/19/2022
PB-886-13	PB-886-13-SS01	3	3.5	Lead	SW6010D	Soil	3.04	2.26	7/15/2022	7/18/2022
PB-886-14	DUP-46	3	3.5	Toluene	SW8260C	Soil	ND	0.0017	7/15/2022	7/20/2022
PB-886-14	DUP-46	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-14	DUP-46	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-14	DUP-46	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-14	DUP-46	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/15/2022	7/18/2022
PB-886-14	DUP-46	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/15/2022	7/18/2022
PB-886-14	DUP-46	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-14	DUP-46	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-14	DUP-46	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-14	DUP-46	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-14	DUP-46	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00083	7/15/2022	7/20/2022
PB-886-14	DUP-46	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-14	DUP-46	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0033	7/15/2022	7/20/2022
PB-886-14	DUP-46	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0033	7/15/2022	7/20/2022
PB-886-14	DUP-46	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0017	7/15/2022	7/20/2022
PB-886-14	DUP-46	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0033	7/15/2022	7/20/2022
PB-886-14	DUP-46	3	3.5	Benzene	SW8260C	Soil	ND	0.00083	7/15/2022	7/20/2022
PB-886-14	DUP-46	3	3.5	Cumene	SW8260C	Soil	ND	0.0017	7/15/2022	7/20/2022
PB-886-14	DUP-46	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0017	7/15/2022	7/20/2022
PB-886-14	DUP-46	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0033	7/15/2022	7/20/2022
PB-886-14	DUP-46	3	3.5	Lead	SW6010D	Soil	2.04	2.14	7/15/2022	7/18/2022
PB-886-14	PB-886-14-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	7/15/2022	7/19/2022
PB-886-14	PB-886-14-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-14	PB-886-14-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/15/2022	7/18/2022

Table 2 - 012A (PB 886)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-886-14	PB-886-14-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/15/2022	7/18/2022
PB-886-14	PB-886-14-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-14	PB-886-14-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-14	PB-886-14-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-14	PB-886-14-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-14	PB-886-14-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-14	PB-886-14-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-14	PB-886-14-SS01	3	3.5	Lead	SW6010D	Soil	2.16	2.18	7/15/2022	7/18/2022
PB-886-14	PB-886-14-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0024	7/15/2022	7/19/2022
PB-886-14	PB-886-14-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/15/2022	7/19/2022
PB-886-14	PB-886-14-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	7/15/2022	7/19/2022
PB-886-14	PB-886-14-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00061	7/15/2022	7/19/2022
PB-886-14	PB-886-14-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/15/2022	7/19/2022
PB-886-14	PB-886-14-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/15/2022	7/19/2022
PB-886-14	PB-886-14-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00061	7/15/2022	7/19/2022
PB-886-14	PB-886-14-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0024	7/15/2022	7/19/2022
PB-886-14	PB-886-14-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0024	7/15/2022	7/19/2022
PB-886-14	PB-886-14-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-15	PB-886-15-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-15	PB-886-15-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-15	PB-886-15-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-15	PB-886-15-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-15	PB-886-15-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-886-15	PB-886-15-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-886-15	PB-886-15-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-15	PB-886-15-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-15	PB-886-15-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0017	7/15/2022	7/19/2022
PB-886-15	PB-886-15-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-15	PB-886-15-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00087	7/15/2022	7/19/2022
PB-886-15	PB-886-15-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0035	7/15/2022	7/19/2022
PB-886-15	PB-886-15-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0035	7/15/2022	7/19/2022
PB-886-15	PB-886-15-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0035	7/15/2022	7/19/2022
PB-886-15	PB-886-15-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0035	7/15/2022	7/19/2022
PB-886-15	PB-886-15-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0017	7/15/2022	7/19/2022
PB-886-15	PB-886-15-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0035	7/15/2022	7/19/2022
PB-886-15	PB-886-15-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00087	7/15/2022	7/19/2022
PB-886-15	PB-886-15-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0017	7/15/2022	7/19/2022
PB-886-15	PB-886-15-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0017	7/15/2022	7/19/2022
PB-886-15	PB-886-15-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0035	7/15/2022	7/19/2022
PB-886-15	PB-886-15-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-15	PB-886-15-SS01	3	3.5	Lead	SW6010D	Soil	2.56	2.2	7/15/2022	7/18/2022
PB-886-16	PB-886-16-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00087	7/15/2022	7/19/2022
PB-886-16	PB-886-16-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-16	PB-886-16-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/15/2022	7/18/2022
PB-886-16	PB-886-16-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/15/2022	7/18/2022
PB-886-16	PB-886-16-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-16	PB-886-16-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	7/15/2022	7/18/2022
PB-886-16	PB-886-16-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-16	PB-886-16-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	7/15/2022	7/18/2022
PB-886-16	PB-886-16-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-16	PB-886-16-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-16	PB-886-16-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/15/2022	7/19/2022
PB-886-16	PB-886-16-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-16	PB-886-16-SS01	3	3.5	Lead	SW6010D	Soil	1.82	2.13	7/15/2022	7/21/2022
PB-886-16	PB-886-16-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0017	7/15/2022	7/19/2022
PB-886-16	PB-886-16-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00043	7/15/2022	7/19/2022
PB-886-16	PB-886-16-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00087	7/15/2022	7/19/2022
PB-886-16	PB-886-16-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0017	7/15/2022	7/19/2022
PB-886-16	PB-886-16-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00043	7/15/2022	7/19/2022
PB-886-16	PB-886-16-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00087	7/15/2022	7/19/2022
PB-886-16	PB-886-16-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00087	7/15/2022	7/19/2022
PB-886-16	PB-886-16-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0017	7/15/2022	7/19/2022
PB-886-17	PB-886-17-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/15/2022	7/19/2022
PB-886-17	PB-886-17-SS01	3	3.5	Naphthalene	SW8270D	Soil	0.092	0.19	7/15/2022	7/18/2022
PB-886-17	PB-886-17-SS01	3	3.5	Fluorene	SW8270D	Soil	0.046	0.19	7/15/2022	7/18/2022
PB-886-17	PB-886-17-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/15/2022	7/18/2022
PB-886-17	PB-886-17-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-17	PB-886-17-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/15/2022	7/18/2022
PB-886-17	PB-886-17-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-17	PB-886-17-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/15/2022	7/18/2022
PB-886-17	PB-886-17-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/15/2022	7/18/2022
PB-886-17	PB-886-17-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.13	0.12	7/15/2022	7/18/2022
PB-886-17	PB-886-17-SS01	3	3.5	Lead	SW6010D	Soil	1.8	2.27	7/15/2022	7/21/2022
PB-886-17	PB-886-17-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0021	7/15/2022	7/19/2022
PB-886-17	PB-886-17-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/15/2022	7/19/2022
PB-886-17	PB-886-17-SS01	3	3.5	Cumene	SW8260C	Soil	0.00012	0.001	7/15/2022	7/19/2022
PB-886-17	PB-886-17-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00052	7/15/2022	7/19/2022
PB-886-17	PB-886-17-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.00082	0.0021	7/15/2022	7/19/2022
PB-886-17	PB-886-17-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/15/2022	7/19/2022
PB-886-17	PB-886-17-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00052	7/15/2022	7/19/2022
PB-886-17	PB-886-17-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.0025	0.0021	7/15/2022	7/19/2022
PB-886-17	PB-886-17-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/15/2022	7/18/2022
PB-886-17	PB-886-17-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0021	7/15/2022	7/19/2022
PB-886-18	PB-886-18-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	0.022	0.11	10/7/2021	10/11/2021
PB-886-18	PB-886-18-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	10/7/2021	10/11/2021
PB-886-18	PB-886-18-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	0.036	0.11	10/7/2021	10/11/2021
PB-886-18	PB-886-18-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	0.027	0.15	10/7/2021	10/11/2021
PB-886-18	PB-886-18-SS01	3	3.5	Chrysene	SW8270D	Soil	0.093	0.11	10/7/2021	10/11/2021
PB-886-18	PB-886-18-SS01	3	3.5	Fluorene	SW8270D	Soil	0.03	0.18	10/7/2021	10/11/2021
PB-886-18	PB-886-18-SS01	3	3.5	Naphthalene	SW8270D	Soil	0.14	0.18	10/7/2021	10/11/2021
PB-886-18	PB-886-18-SS01	3	3.5	Pyrene	SW8270D	Soil	0.11	0.11	10/7/2021	10/11/2021
PB-886-18	PB-886-18-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0011	10/7/2021	10/13/2021
PB-886-18	PB-886-18-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.12	0.11	10/7/2021	10/11/2021
PB-886-18	PB-886-18-SS01	3	3.5	Lead	SW6010D	Soil	1.92	2.1	10/7/2021	10/13/2021
PB-886-18	PB-886-18-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0023	10/7/2021	10/13/2021
PB-886-18	PB-886-18-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0011	10/7/2021	10/13/2021
PB-886-18	PB-886-18-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0011	10/7/2021	10/13/2021
PB-886-18	PB-886-18-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00057	10/7/2021	10/13/2021
PB-886-18	PB-886-18-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0023	10/7/2021	10/13/2021
PB-886-18	PB-886-18-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	10/7/2021	10/13/2021
PB-886-18	PB-886-18-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00057	10/7/2021	10/13/2021
PB-886-18	PB-886-18-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0023	10/7/2021	10/13/2021
PB-886-18	PB-886-18-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0023	10/7/2021	10/13/2021
PB-886-18	PB-886-18-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	10/7/2021	10/11/2021
PB-886-19	PB-886-19-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-19	PB-886-19-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-19	PB-886-19-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-19	PB-886-19-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022

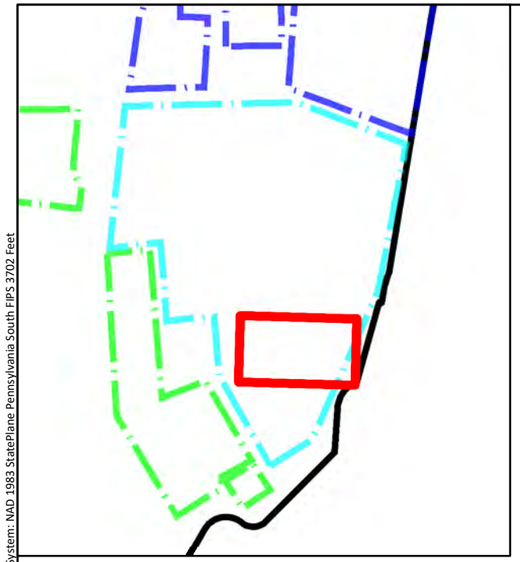
Table 2 - 012A (PB 886)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-886-19	PB-886-19-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-19	PB-886-19-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0026	7/15/2022	7/20/2022
PB-886-19	PB-886-19-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-886-19	PB-886-19-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-886-19	PB-886-19-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-19	PB-886-19-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-19	PB-886-19-SS01	3	3.5	Lead	SW6010D	Soil	2.28	2.24	7/15/2022	7/18/2022
PB-886-19	PB-886-19-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0013	7/15/2022	7/20/2022
PB-886-19	PB-886-19-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0026	7/15/2022	7/20/2022
PB-886-19	PB-886-19-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00066	7/15/2022	7/20/2022
PB-886-19	PB-886-19-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0013	7/15/2022	7/20/2022
PB-886-19	PB-886-19-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00066	7/15/2022	7/20/2022
PB-886-19	PB-886-19-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0013	7/15/2022	7/20/2022
PB-886-19	PB-886-19-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0013	7/15/2022	7/20/2022
PB-886-19	PB-886-19-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0026	7/15/2022	7/20/2022
PB-886-19	PB-886-19-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0026	7/15/2022	7/20/2022
PB-886-19	PB-886-19-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-20	PB-886-20-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-20	PB-886-20-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-20	PB-886-20-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-20	PB-886-20-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-20	PB-886-20-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-20	PB-886-20-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/15/2022	7/18/2022
PB-886-20	PB-886-20-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-20	PB-886-20-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-20	PB-886-20-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0012	7/15/2022	7/20/2022
PB-886-20	PB-886-20-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/15/2022	7/18/2022
PB-886-20	PB-886-20-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00063	7/15/2022	7/20/2022
PB-886-20	PB-886-20-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-20	PB-886-20-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0025	7/15/2022	7/20/2022
PB-886-20	PB-886-20-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0025	7/15/2022	7/19/2022
PB-886-20	PB-886-20-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0012	7/15/2022	7/20/2022
PB-886-20	PB-886-20-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0025	7/15/2022	7/20/2022
PB-886-20	PB-886-20-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00063	7/15/2022	7/20/2022
PB-886-20	PB-886-20-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0012	7/15/2022	7/20/2022
PB-886-20	PB-886-20-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0012	7/15/2022	7/20/2022
PB-886-20	PB-886-20-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0025	7/15/2022	7/20/2022
PB-886-20	PB-886-20-SS01	3	3.5	Lead	SW6010D	Soil	2.19	2.22	7/15/2022	7/18/2022
PB-886-21	PB-886-21-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00089	7/15/2022	7/19/2022
PB-886-21	PB-886-21-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	7/15/2022	7/18/2022
PB-886-21	PB-886-21-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	7/15/2022	7/18/2022
PB-886-21	PB-886-21-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	7/15/2022	7/18/2022
PB-886-21	PB-886-21-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-886-21	PB-886-21-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-886-21	PB-886-21-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	7/15/2022	7/18/2022
PB-886-21	PB-886-21-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-21	PB-886-21-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	7/15/2022	7/18/2022
PB-886-21	PB-886-21-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-21	PB-886-21-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00044	7/15/2022	7/19/2022
PB-886-21	PB-886-21-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	7/15/2022	7/18/2022
PB-886-21	PB-886-21-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/15/2022	7/19/2022
PB-886-21	PB-886-21-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/15/2022	7/19/2022
PB-886-21	PB-886-21-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00089	7/15/2022	7/19/2022
PB-886-21	PB-886-21-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/15/2022	7/19/2022
PB-886-21	PB-886-21-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00044	7/15/2022	7/19/2022
PB-886-21	PB-886-21-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.00089	7/15/2022	7/19/2022
PB-886-21	PB-886-21-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.00089	7/15/2022	7/19/2022
PB-886-21	PB-886-21-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/15/2022	7/19/2022
PB-886-21	PB-886-21-SS01	3	3.5	Lead	SW6010D	Soil	1.82	2.23	7/15/2022	7/21/2022
PB-886-22	PB-886-22-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/15/2022	7/19/2022
PB-886-22	PB-886-22-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-22	PB-886-22-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-886-22	PB-886-22-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.19	7/15/2022	7/18/2022
PB-886-22	PB-886-22-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-22	PB-886-22-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-22	PB-886-22-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-22	PB-886-22-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-22	PB-886-22-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-22	PB-886-22-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-22	PB-886-22-SS01	3	3.5	Lead	SW6010D	Soil	2.06	2.24	7/15/2022	7/21/2022
PB-886-22	PB-886-22-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/15/2022	7/19/2022
PB-886-22	PB-886-22-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/15/2022	7/19/2022
PB-886-22	PB-886-22-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	7/15/2022	7/19/2022
PB-886-22	PB-886-22-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0005	7/15/2022	7/19/2022
PB-886-22	PB-886-22-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/15/2022	7/19/2022
PB-886-22	PB-886-22-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/15/2022	7/19/2022
PB-886-22	PB-886-22-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0005	7/15/2022	7/19/2022
PB-886-22	PB-886-22-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/15/2022	7/19/2022
PB-886-22	PB-886-22-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/15/2022	7/19/2022
PB-886-22	PB-886-22-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-23	PB-886-23-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-23	PB-886-23-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-23	PB-886-23-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-23	PB-886-23-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-23	PB-886-23-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-23	PB-886-23-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.002	7/15/2022	7/19/2022
PB-886-23	PB-886-23-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/15/2022	7/18/2022
PB-886-23	PB-886-23-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/15/2022	7/18/2022
PB-886-23	PB-886-23-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-23	PB-886-23-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-23	PB-886-23-SS01	3	3.5	Lead	SW6010D	Soil	1.95	2.21	7/15/2022	7/21/2022
PB-886-23	PB-886-23-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	7/15/2022	7/19/2022
PB-886-23	PB-886-23-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/15/2022	7/19/2022
PB-886-23	PB-886-23-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.0005	7/15/2022	7/19/2022
PB-886-23	PB-886-23-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	7/15/2022	7/19/2022
PB-886-23	PB-886-23-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.0005	7/15/2022	7/19/2022
PB-886-23	PB-886-23-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	7/15/2022	7/19/2022
PB-886-23	PB-886-23-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	7/15/2022	7/19/2022
PB-886-23	PB-886-23-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.002	7/15/2022	7/19/2022
PB-886-23	PB-886-23-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.002	7/15/2022	7/19/2022
PB-886-23	PB-886-23-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-24	PB-886-24-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-24	PB-886-24-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.16	10/7/2021	10/11/2021
PB-886-24	PB-886-24-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-24	PB-886-24-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.16	10/7/2021	10/11/2021
PB-886-24	PB-886-24-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021

Table 2 - 012A (PB 886)
Sample/Analysis Information (Attachment for Section III.)

Location	Sample ID	Start Depth (ft)	End Depth (ft)	Parameter	Analytical Method	Media	Results (mg/kg)	Detection Limit (mg/kg)	Date Sample Taken	Date Sample Analyzed
PB-886-24	PB-886-24-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.2	10/7/2021	10/11/2021
PB-886-24	PB-886-24-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-24	PB-886-24-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-24	PB-886-24-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.001	10/7/2021	10/13/2021
PB-886-24	PB-886-24-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.2	10/7/2021	10/11/2021
PB-886-24	PB-886-24-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00053	10/7/2021	10/13/2021
PB-886-24	PB-886-24-SS01	3	3.5	Lead	SW6010D	Soil	4.51	2.35	10/7/2021	10/13/2021
PB-886-24	PB-886-24-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.12	10/7/2021	10/11/2021
PB-886-24	PB-886-24-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0021	10/7/2021	10/13/2021
PB-886-24	PB-886-24-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0021	10/7/2021	10/13/2021
PB-886-24	PB-886-24-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.001	10/7/2021	10/13/2021
PB-886-24	PB-886-24-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0021	10/7/2021	10/13/2021
PB-886-24	PB-886-24-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00053	10/7/2021	10/13/2021
PB-886-24	PB-886-24-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.001	10/7/2021	10/13/2021
PB-886-24	PB-886-24-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.001	10/7/2021	10/13/2021
PB-886-24	PB-886-24-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0021	10/7/2021	10/13/2021
PB-886-25	PB-886-25-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-25	PB-886-25-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.18	7/15/2022	7/18/2022
PB-886-25	PB-886-25-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.18	7/15/2022	7/18/2022
PB-886-25	PB-886-25-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	ND	0.0018	7/15/2022	7/19/2022
PB-886-25	PB-886-25-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-25	PB-886-25-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-25	PB-886-25-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.15	7/15/2022	7/18/2022
PB-886-25	PB-886-25-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-25	PB-886-25-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-25	PB-886-25-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-25	PB-886-25-SS01	3	3.5	Lead	SW6010D	Soil	1.81	2.18	7/15/2022	7/21/2022
PB-886-25	PB-886-25-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0018	7/15/2022	7/19/2022
PB-886-25	PB-886-25-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	ND	0.0009	7/15/2022	7/19/2022
PB-886-25	PB-886-25-SS01	3	3.5	Cumene	SW8260C	Soil	ND	0.0009	7/15/2022	7/19/2022
PB-886-25	PB-886-25-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00045	7/15/2022	7/19/2022
PB-886-25	PB-886-25-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/15/2022	7/19/2022
PB-886-25	PB-886-25-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0009	7/15/2022	7/19/2022
PB-886-25	PB-886-25-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00045	7/15/2022	7/19/2022
PB-886-25	PB-886-25-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	ND	0.0018	7/15/2022	7/19/2022
PB-886-25	PB-886-25-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.0009	7/15/2022	7/19/2022
PB-886-25	PB-886-25-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.11	7/15/2022	7/18/2022
PB-886-26	PB-886-26-SS01	3	3.5	Anthracene	SW8270D	Soil	0.034	0.11	10/7/2021	10/11/2021
PB-886-26	PB-886-26-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.11	10/7/2021	10/11/2021
PB-886-26	PB-886-26-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	10/7/2021	10/11/2021
PB-886-26	PB-886-26-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	10/7/2021	10/11/2021
PB-886-26	PB-886-26-SS01	3	3.5	Fluorene	SW8270D	Soil	0.054	0.18	10/7/2021	10/11/2021
PB-886-26	PB-886-26-SS01	3	3.5	Naphthalene	SW8270D	Soil	0.022	0.18	10/7/2021	10/11/2021
PB-886-26	PB-886-26-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.025	0.0023	10/7/2021	10/13/2021
PB-886-26	PB-886-26-SS01	3	3.5	Pyrene	SW8270D	Soil	0.045	0.11	10/7/2021	10/11/2021
PB-886-26	PB-886-26-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.11	10/7/2021	10/11/2021
PB-886-26	PB-886-26-SS01	3	3.5	Phenanthrene	SW8270D	Soil	0.12	0.11	10/7/2021	10/11/2021
PB-886-26	PB-886-26-SS01	3	3.5	Lead	SW6010D	Soil	2.15	2.08	10/7/2021	10/13/2021
PB-886-26	PB-886-26-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0023	10/7/2021	10/13/2021
PB-886-26	PB-886-26-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	0.0032	0.0011	10/7/2021	10/13/2021
PB-886-26	PB-886-26-SS01	3	3.5	Cumene	SW8260C	Soil	0.0089	0.0011	10/7/2021	10/13/2021
PB-886-26	PB-886-26-SS01	3	3.5	Benzene	SW8260C	Soil	0.00025	0.00057	10/7/2021	10/13/2021
PB-886-26	PB-886-26-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	0.14	0.0023	10/7/2021	10/13/2021
PB-886-26	PB-886-26-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.0011	10/7/2021	10/13/2021
PB-886-26	PB-886-26-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00057	10/7/2021	10/13/2021
PB-886-26	PB-886-26-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.17	0.0023	10/7/2021	10/13/2021
PB-886-26	PB-886-26-SS01	3	3.5	Chrysene	SW8270D	Soil	0.031	0.11	10/7/2021	10/11/2021
PB-886-26	PB-886-26-SS01	3	3.5	Toluene	SW8260C	Soil	0.0012	0.0011	10/7/2021	10/13/2021
PB-886-27	PB-886-27-SS01	3	3.5	Benzo(a)anthracene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-27	PB-886-27-SS01	3	3.5	Benzo(a)pyrene	SW8270D	Soil	ND	0.14	10/7/2021	10/11/2021
PB-886-27	PB-886-27-SS01	3	3.5	Benzo(b)fluoranthene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-27	PB-886-27-SS01	3	3.5	Benzo(g,h,i)perylene	SW8270D	Soil	ND	0.14	10/7/2021	10/11/2021
PB-886-27	PB-886-27-SS01	3	3.5	Chrysene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-27	PB-886-27-SS01	3	3.5	Fluorene	SW8270D	Soil	ND	0.17	10/7/2021	10/11/2021
PB-886-27	PB-886-27-SS01	3	3.5	Anthracene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-27	PB-886-27-SS01	3	3.5	Phenanthrene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-27	PB-886-27-SS01	3	3.5	1,3,5-Trimethylbenzene	SW8260C	Soil	ND	0.12	10/7/2021	10/13/2021
PB-886-27	PB-886-27-SS01	3	3.5	Naphthalene	SW8270D	Soil	ND	0.17	10/7/2021	10/11/2021
PB-886-27	PB-886-27-SS01	3	3.5	Xylenes (total)	SW8260C	Soil	0.00107	0.0019	10/7/2021	10/11/2021
PB-886-27	PB-886-27-SS01	3	3.5	Toluene	SW8260C	Soil	ND	0.00095	10/7/2021	10/13/2021
PB-886-27	PB-886-27-SS01	3	3.5	Methyl tert-butyl ether	SW8260C	Soil	ND	0.0019	10/7/2021	10/13/2021
PB-886-27	PB-886-27-SS01	3	3.5	Ethyl Benzene	SW8260C	Soil	0.00018	0.00095	10/7/2021	10/13/2021
PB-886-27	PB-886-27-SS01	3	3.5	Benzene	SW8260C	Soil	ND	0.00047	10/7/2021	10/13/2021
PB-886-27	PB-886-27-SS01	3	3.5	1,2-Dichloroethane	SW8260C	Soil	ND	0.00095	10/7/2021	10/13/2021
PB-886-27	PB-886-27-SS01	3	3.5	1,2-Dibromoethane	SW8260C	Soil	ND	0.00047	10/7/2021	10/13/2021
PB-886-27	PB-886-27-SS01	3	3.5	1,2,4-Trimethylbenzene	SW8260C	Soil	0.051	0.0019	10/7/2021	10/13/2021
PB-886-27	PB-886-27-SS01	3	3.5	Lead	SW6010D	Soil	2.28	2.04	10/7/2021	10/13/2021
PB-886-27	PB-886-27-SS01	3	3.5	Pyrene	SW8270D	Soil	ND	0.1	10/7/2021	10/11/2021
PB-886-27	PB-886-27-SS01	3	3.5	Cumene	SW8260C	Soil	0.00021	0.00095	10/7/2021	10/13/2021

Notes:
SS -- Soil Sample.
DUP-21 is a field duplicate associated with sample PB-886-09-SS01.
DUP-46 is a field duplicate associated with sample PB-886-14-SS01.



PB 885

PB 251

PB 252

PB 886

PB-886-01
PB-886-02
PB-886-03
PB-886-04
PB-886-05
PB-886-06
PB-886-07
PB-886-08
PB-886-09
PB-886-10
PB-886-11
PB-886-12
PB-886-13
PB-886-14
PB-886-15
PB-886-16
PB-886-17
PB-886-18
PB-886-19
PB-886-20
PB-886-21
PB-886-22
PB-886-23
PB-886-24
PB-886-25
PB-886-26
PB-886-27

Legend

Tank Group

- 04
- Previously Closed
- Associated Piping
- PESRM Soil Sample Location

0 50 100 Feet

1 inch = 50 feet

N

SAFETY FIRST

terraphase engineering

CLIENT: Philadelphia Energy Solutions Refining and Marketing LLC

PROJECT: Aboveground Storage Tank Closure

PROJECT NUMBER: P044.001.002

Site Location and Sampling Map 012A (PB 886)

Figure 2

File: N:\GIS\Prj\P044.001_PESRM-PES\MXDs\AST Work\Tank Group 04\For AST Closure Report\Figure 2 - 012A (PB 886).mxd 12/30/2022 Created by: JD Checked by: Initial Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

Photograph 1:

View of Tank 012A (PB 886) prior to demolition.

Photograph 2:

View of Tank 012A (PB 886) prior to demolition.

Photograph 3:

View of the cleaning of Tank 012A (PB 886) prior to demolition.

Product Movement and Waste Disposal Documentation (Tank 012A)

NorthStar Contracting Group, Inc.

PES Project Load Ticket

#S120103

Load Ticket: 14359

Date: 08-17-21

Scrap

Sold to: Allegheny

Location: ~~Old~~ BBL Tank

Carrier: Allegheny

Steel / Ferrous

- ☐ No. 1 P+S
- ☐ No. 2 Heavy Melt
- ☐ Cast Iron
- ☐ Mixed
- ☐ Pipe
- ☐ Light Iron
- ☐ Re-Bar
- ☐ Other Tank Plate

Non-Ferrous

- ☐ Insulated Copper Wire
- ☐ No. 1 Copper Wire
- ☐ Brass
- ☐ Aluminum
- ☐ Stainless, Grade_____
- ☐ Other Alloy, Grade_____
- ☐ Mixed
- ☐ Other: _____

Condition

- ☐ Prepared
- ☐ Unprepared
- ☐ Green Waste
- ☐ Concrete
- ☐ Masonry
- ☐ Mixed Masonry
- ☐ Wood Only
- ☐ Demo Debris (C&D)
- ☐ Dirt / Fill
- ☐ Sand Fill
- ☐ Crushed Stone
- ☐ Other:_____

Scale Ticket #: _____

Gross Weight: 74560 lbs

Tare Weight: 41280 lbs

Net Weight: 33280 lbs

NorthStar Rep. Signature: _____

Received By: _____

Non-Haz / ACM / Special Waste

Activity Location: _____

Waste Stream

- ☐ C&D Demolition Debris
- ☐ Non-Friable ACM
- ☐ Friable ACM
- ☐ PB WWTP Sludge
- ☐ GP WWTP Sludge
- ☐ Characteristic Haz Waste (flammable D001, corrosive D002, reactive D003, toxicity D004 –D043)
- ☐ Process Haz Waste
- ☐ Demo Debris (C&D)
- ☐ Non-Haz Waste (Solid)
- ☐ Non-Haz Waste (Liquid)
- ☐ PCB (Non-TSCA)
- ☐ PCB (TSCA)

Disposal Facility: _____

Carrier: _____

Truck #: _____

Container #: _____

Manifest #: _____

Profile / Approval #: _____

Scale Info

Scale Ticket #: _____

Gross Weight: _____

Tare weight: _____

Net weight: _____

Net Kilogram Conversion (PCB Only): _____

NorthStar Rep. Signature: _____

HILCO REDEVELOPEMENT PARTNERS
3144 W. PASSYUNK AVE

PHILADELPHIA PA, 19145

Ticket #: 20029383
Date: 08/17/2021 7:50 AM
Phone: ( ) -
Fax: ( ) -

Customer: HILCO
HILCO

Order Number: 001
SCRAP REMOVAL
Tons: 47396.851
Loads: 3230

DT328-1109 - TRACTOR 1109 TRAILER DT328
CARLAD - CARLA DAVILA

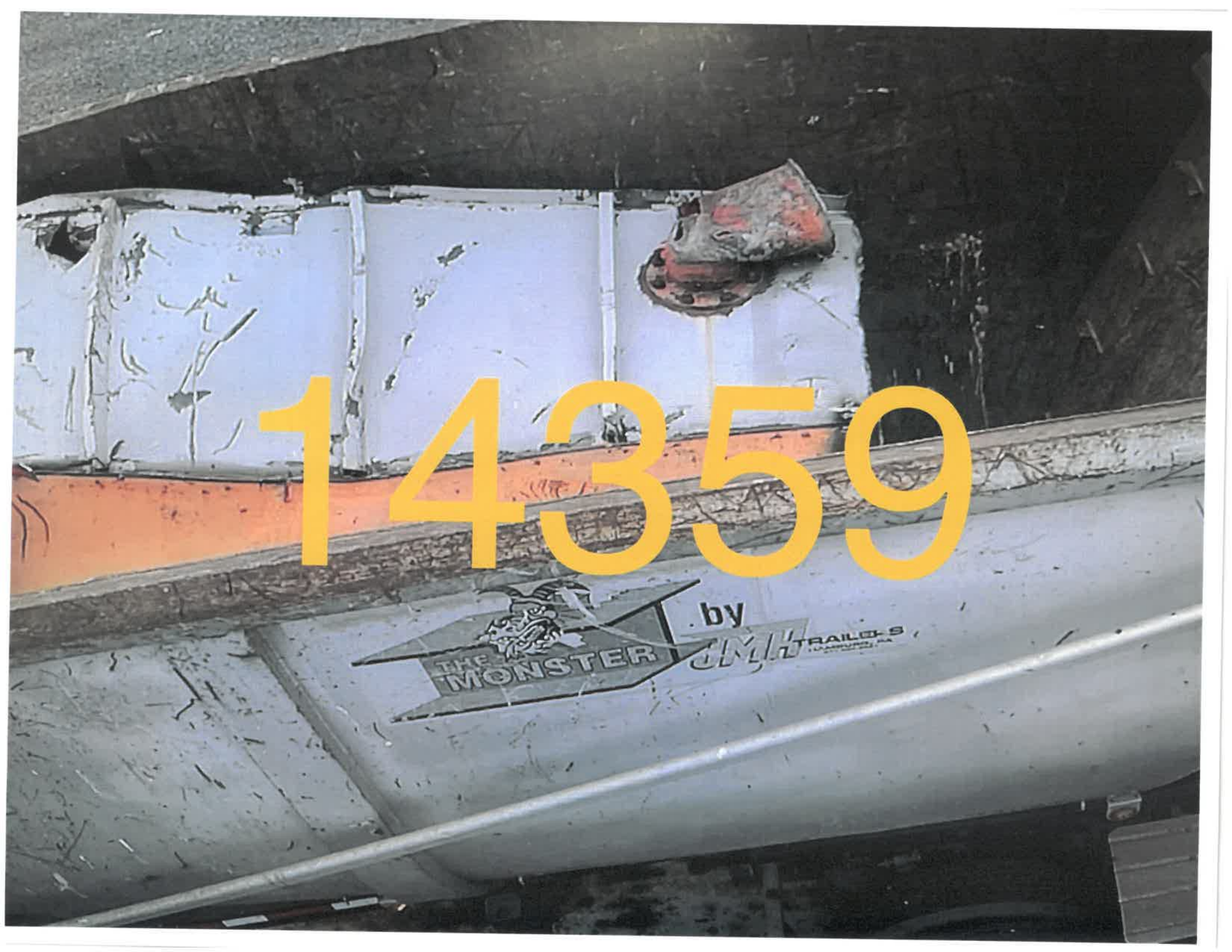
Remarks: SCRAP REMOVAL

Signature: _____

Material	Quantity	Price	Material $	Delivery $	Misc $	Tax $	Line Total $
SCRAP	16.14 tn						

Weight Information

Material	Gross	Tare	Net
SCRAP	74560.00	42280.00	32280.00


14359
THE MONSTER
by
TRAILERS

Product Movement and Waste Disposal Documentation (Tank Group 04)

Date	From Tank #	Product Qty. (gal)	Transferred To Tank #	Product	Disposition / Volume	
191					**191**	
6/7/2021	191	2,800	843	Crude Oil	**Bulk Sale of Crude Oil**	**Bulk Saleable product (gal)**
6/15/2021	191	5,000	843	Crude Oil		
6/16/2021	191	5,000	843	Crude Oil		**98,300**
6/17/2021	191	3,000	843	Crude Oil		
6/17/2021	191	6,000	843	Crude Oil		
6/24/2021	191	3,000	843	Crude Oil		
6/25/2021	191	2,800	191	Crude Oil		
6/25/2021	191	3,000	843	Crude Oil		
6/25/2021	191	2,800	843	Crude Oil		
6/25/2021	191	2,800	843	Crude Oil		
6/29/2021	191	2,800	843	Crude Oil		
6/30/2021	191	2,800	843	Crude Oil		
6/30/2021	191	2,800	843	Crude Oil		
7/1/2021	191	2,800	843	Crude Oil		
7/1/2021	191	3,000	843	Crude Oil		
7/1/2021	191	3000	843	Crude Oil		
7/1/2021	191	3200	843	Crude Oil		
7/6/2021	191	2800	843	Crude Oil		
7/6/2021	191	500	843	Crude Oil		
7/9/2021	191	2800	843	Crude Oil		
7/13/2021	191	2800	843	Crude Oil		
7/13/2021	191	3600	843	Crude Oil		
7/15/2021	191	2800	843	Crude Oil		
7/15/2021	191	2800	843	Crude Oil		
7/15/2021	191	2800	843	Crude Oil		
7/15/2021	191	2800	843	Crude Oil		
7/15/2021	191	2800	843	Crude Oil		
7/15/2021	191	18000	843	Crude Oil		
7/15/2021	191	2800	843	Crude Oil		
7/15/2021	191	18000	843	Crude Oil		
7/16/2021	191	2800	843	Crude Oil / Water	**Bulk Sale of Crude Oil / WWTP**	**Crude Oil / Water Volume (gal)**
7/16/2021	191	2800	843	Crude Oil / Water		
7/16/2021	191	2800	843	Crude Oil / Water		**Crude Oil / Water 48,045 / 112,105**
7/16/2021	191	2800	843	Crude Oil / Water		
7/16/2021	191	2800	843	Crude Oil / Water		
7/20/2021	191	2800	843	Crude Oil / Water		
7/20/2021	191	2800	843	Crude Oil / Water		
7/20/2021	191	1500	843	Crude Oil / Water		
7/20/2021	191	2800	843	Crude Oil / Water		
7/20/2021	191	8000	843	Crude Oil / Water		
7/20/2021	191	1500	843	Crude Oil / Water		
7/20/2021	881	2800	843	Crude Oil / Water		
7/21/2021	191	2800	843	Crude Oil / Water		
7/21/2021	191	2800	843	Crude Oil / Water		
7/21/2021	191	2800	843	Crude Oil / Water		
7/21/2021	191	3000	843	Crude Oil / Water		
7/21/2021	191	14000	843	Crude Oil / Water		
7/21/2021	191	600	843	Crude Oil / Water		
7/22/2021	191	2800	843	Crude Oil / Water		
7/22/2021	191	2800	843	Crude Oil / Water		
7/22/2021	191	2000	843	Crude Oil / Water		
7/23/2021	191	2800	843	Crude Oil / Water		
7/23/2021	191	2800	843	Crude Oil / Water		
7/23/2021	191	2800	843	Crude Oil / Water		
7/23/2021	191	2800	843	Crude Oil / Water		
7/23/2021	191	2800	843	Crude Oil / Water		
7/23/2021	191	1100	843	Crude Oil / Water		
7/26/2021	191	2800	843	Crude Oil / Water		
7/26/2021	191	2800	843	Crude Oil / Water		
7/26/2021	191	2800	843	Crude Oil / Water		
7/26/2021	191	15000	843	Crude Oil / Water		
7/27/2021	191	2800	843	Crude Oil / Water		
7/27/2021	191	2800	843	Crude Oil / Water		
7/27/2021	191	13000	843	Crude Oil / Water		
7/27/2021	191	2800	843	Crude Oil / Water		
7/27/2021	191	2800	843	Crude Oil / Water		
7/27/2021	191	13000	843	Crude Oil / Water		
7/28/2021	191	2800	843	Crude Oil / Water		
7/28/2021	191	6000	843	Crude Oil / Water		
9/10/2021	191	100	272	Line Flush Crude Oil/Water		
9/13/2021	191	3000	272	Line Flush Crude Oil/Water		
10/13/2022	191	1750	272	Line Flush Crude Oil/Water		
10/14/2022	191	750	272	Line Flush Crude Oil/Water		
10/14/2022	191	3000	272	Line Flush Crude Oil/Water		
10/15/2022	191	750	272	Line Flush Crude Oil/Water		
10/18/2022	191	1500	272	Line Flush Crude Oil/Water		
10/18/2022	191	600	272	Line Flush Crude Oil/Water		
881					**881**	
7/22/2021	881	1800	273	Crude Oil	**Bulk Sale of Crude Oil**	**Volume (gal)**
11/22/2021	881	15,000	273	Crude Oil		**31,800**
11/24/2021	881	3,000	273	Crude Oil		
11/29/2021	881	12,000	273	Crude Oil		
11/30/2021	881	18,000	273	Crude Oil/Water	**Bulk Sale of Crude Oil / WWTP**	**Crude Oil / Water Volume (gal)**
12/2/2021	881	9,000	273	Crude Oil/Water		
12/2/2021	881	500	273	Crude Oil/Water		**3,120 / 30.000**
12/3/2021	881	300	273	Crude Oil/Water		
12/6/2021	881	10,000	273	Crude Oil/Water		
12/7/2021	881	5,200	273	Crude Oil/Water		
12/8/2021	881	6,000	273	Crude Oil/Water		
12/9/2021	881	4,000	273	Crude Oil/Water		
12/10/2021	881	3,000	273	Crude Oil/Water		
12/13/2021	881	700	273	Crude Oil/Water		
12/14/2021	881	1,500	273	Crude Oil/Water		

12/17/2021	881	120	273	Crude Oil/Water		
885					**885**	
6/25/2021	885	3,000	843	Crude Oil/Water		**Crude Oil / Water Volume (gal)**
6/25/2021	885	1,500	843	Crude Oil/Water		
8/26/2021	Tank 885	28,000	273	Crude Oil/Water		
8/27/2021	Tank 885	3,000	273	Crude Oil/Water		
9/2/2021	Tank 885	9,050	273	Crude Oil/Water	**Bulk Sale of Crude Oil / WWTP**	18,015 / 33,455
9/2/2021	Tank 885	420	273	Crude Oil/Water		
9/9/2021	Tank 885	1,500	273	Crude Oily/Water		
9/9/2021	Tank 885	5,000	273	Crude Oil/Water		
886					**886**	
2/13/2021	Tank 886	311,100	843	Crude Oil		**Volume (gal)**
2/11/2021	Tank 886	91,000	843	Crude Oil		
2/13/2021	Tank 886	70,200	843	Crude Oil	**Bulk Sale of Crude Oil**	**815,500**
2/16/2021	Tank 886	176,100	843	Crude oil		
2/16/2021	Tank 886	90,300	843	Crude Oil/Water		
2/16/2021	Tank 886	76,800	843	Crude Oil/Water		
3/3/2021	Tank 886	10,700	843	Crude Oil/Water		**Crude Oil / Water Volume (gal)**
3/12/2021	Tank 886	2,400	843	Crude Oil/Water		
5/17/2021	Tank 886	5,500	843	Crude Oil/Water		
6/25/2021	Tank 886	1,800	843	Crude Oil/Water		
6/30/2021	Tank 886	900	843	Crude Oil/Water		
7/1/2021	Tank 886	4,000	843	Crude Oil/Water	**Bulk Sale of Crude Oil / WWTP**	
7/9/2021	Line by Tank 886	2,600	843	Crude Oil/Water		
7/12/2021	TF 4 / 886 Tank Line Flush	3,750	843	Crude Oil/Water		
7/12/2021	TF 4 / 886 Tank Line Flush	6,000	843	Crude Oil/Water		10,630 / 42520
7/13/2021	TF 4 / 886 Tank Line Flush	4,000	843	Crude Oil/Water		
7/14/2021	TF 4 / 886 Tank Line Flush	2,000	843	Crude Oil/Water		
7/14/2021	TF 4 / 886 Tank Line Flush	3,000	843	Crude Oil/Water		
8/26/2021	TF 4 / 886 Tank Line Flush	5,000	272	Crude Oil/Water		
3/8/2022	Tank 886	1,500	273	Crude Oil/Water		
826					**826**	
3/10/2021	826	63,000	843	Crude Oil	**Bulk sale of Crude Oil**	**Volume (gal)**
3/11/2021	826	27,000	843	Crude Oil		**90,000**
3/12/2021	826	3,000	843	Crude Oil / Water		
2/22/2022	826	2,800	227	Crude Oil/Water		
2/23/2022	826	2,800	227	Crude Oil/Water		
2/24/2022	826	600	227	Crude Oil/Water		
2/25/2022	826	3,000	227	Crude Oil/Water		
2/28/2022	826	3,000	272	Crude Oil/Water		
3/4/2022	826	6,000	227	Crude Oil/Water		
3/7/2022	826	4,000	227	Crude Oil/Water		
3/8/2022	826	4,000	227	Crude Oil/Water		
3/9/2022	826	2,700	227	Crude Oil/Water		
3/9/2022	826	3,000	227	Crude Oil/Water		
3/11/2022	826	6,000	227	Crude Oil/Water		
3/14/2022	826	6,000	227	Crude Oil/Water		
3/15/2022	826	6,000	227	Crude Oil/Water	**Bulk Sale of Crude Oil / WWTP**	17,000 / 95,400
3/16/2022	826	6,000	227	Crude Oil/Water		
3/17/2022	826	6,000	227	Crude Oil/Water		
3/17/2022	826	6,000	227	Crude Oil/Water		
3/22/2022	826	6,000	227	Crude Oil/Water		
3/22/2022	826	6,000	227	Crude Oil/Water		
3/23/2022	826	6,000	227	Crude Oil/Water		
3/25/2022	826	6,000	227	Crude Oil/Water		
3/29/2022	826	6,000	227	Crude Oil/Water		
3/30/2022	826	6,000	227	Crude Oil/Water		
4/1/2022	826	3,000	227	Crude Oil/Water		
4/1/2022	826	1,500	227	Crude Oil/Water		
4/4/2022	826	1,000	227	Crude Oil/Water		
840					**840**	
2/16/2021	840	900	273	Crude Oil / Water		**Crude Oil / Water Volume (gal)**
5/24/2021	840	1,500	273	Crude Oil / Water	**Bulk Sale of Crude Oil / WWTP**	
9/16/2021	840	1,500	273	Crude Oil / Water		100 / 5,800
2/28/2022	840	2,000	273	Crude Oil / Water		
841					**841**	
2/19/2021	841	4,500	843	Crude Oil		**Crude Oil / Water Volume (gal)**
2/24/2022	841	3,200	273	Crude Oil	**Bulk sale of Crude Oil**	
3/2/2022	841	10,500	273	Crude Oil		18,200
847					**847**	
2/27/2021	847	3,500	273	Crude Oil / Water		**Crude Oil / Water Volume (gal)**
3/5/2021	847	6,400	843	Crude Oil / Water		
3/5/2021	847	2,400	273	Crude Oil / Water		
3/10/2021	847	900	843	Crude Oil / Water	**Bulk Sale of Crude Oil / WWTP**	900 / 17,100
3/8/2021	847	3,500	273	Crude Oil / Water		
3/10/2021	847	1,200	273	Crude Oil/Water		
9/10/2021	847	100	273	Crude Oil / Water		
883					**883**	
4/1/2021	883	2,100	843	Crude Oil/Water		**Volume (gal)**
4/19/2021	883	10,000	826	**Crude Oil**		
4/21/2021	883	19,200	826	**Crude Oil**		
4/22/2021	883	16,000	826	**Crude Oil**		
4/23/2021	883	4,800	826	**Crude Oil**	**Bulk Sale of Crude Oil / WWTP**	
4/24/2021	883	9,600	826	**Crude Oil**		
4/25/2021	883	28,800	826	**Crude Oil**		
4/26/2021	883	20,800	826	**Crude Oil**		
4/27/2021	883	12,800	826	**Crude Oil**		
4/28/2021	883	4,800	826	**Crude Oil**		
4/29/2021	883	8,000	826	**Crude Oil**		
5/1/2021	883	35,200	826	**Crude Oil**		
5/2/2021	883	38,400	826	**Crude Oil**		

18,000

5/3/2021	883	19,200	826	**Crude Oil**		
5/6/2021	883	21,000	826	**Crude Oil**		
5/7/2021	883	15,000	826	**Crude Oil**		
5/10/2021	883	21,000	826	**Crude Oil**		
5/12/2021	883	9,000	826	Crude Oil/Water		**Crude Oil / Water Volume (gal)**
5/13/2021	883	5,600	826	Crude Oil/Water		
5/14/2021	883	1,500	826	Crude Oil/Water		
5/24/2021	883	3,000	826	Crude Oil/Water		
8/3/2021	883 Line Flush	3,900	272	Crude Oil/Water		
8/3/2021	883 Line Flush	3,900	272	Crude Oil/Water	**Bulk Sale of Crude Oil / WWTP**	2,300 / 38,200
8/3/2021	883 Line Flush	2,900	272	Crude Oil/Water		
8/3/2021	883 Line Flush	3,900	272	Crude Oil/Water		
8/3/2021	883 Line Flush	3,900	272	Crude Oil/Water		
8/3/2021	883 Line Flush	2,900	272	Crude Oil/Water		
884					**884**	
4/30/2021	884	3,000	843	Crude Oil/Water		**Crude Oil / Water Volume (gal)**
5/19/2021	884	2,500	843	Crude Oil/Water		
5/21/2021	884	1,200	843	Crude Oil/Water		
5/24/2021	884	1,000	843	Crude Oil/Water		
5/25/2021	884	3,000	843	Crude Oil/Water		
5/26/2021	884	1,600	843	Crude Oil/Water		
5/27/2021	884	1,600	843	Crude Oil/Water		
5/28/2021	884	1,600	843	Crude Oil/Water		
6/1/2021	884	3,000	843	Crude Oil/Water		
6/2/2021	884	2,600	843	Crude Oil/Water		
6/3/2021	884	2,800	843	Crude Oil/Water	**Bulk Sale of Crude Oil / WWTP**	3,450 / 46,700
6/7/2021	884	2,600	843	Crude Oil/Water		
6/8/2021	884	1,900	843	Crude Oil/Water		
6/9/2021	884	4,900	843	Crude Oil/Water		
6/10/2021	884	1,950	843	Crude Oil/Water		
6/25/2021	884	1,800	843	Crude Oil/Water		
6/28/2021	884 Line Flush	2,100	843	Crude Oil/Water		
6/28/2021	884 Line Flush	3,000	843	Crude Oil/Water		
6/30/2021	884 Line Flush	3,000	843	Crude Oil/Water		
7/2/2021	884 Line Flush	1,500	843	Crude Oil/Water		
7/7/2021	884 Line Flush	1,500	843	Crude Oil/Water		
9/17/2021	884 Line Flush	2,000	843	Crude Oil/Water		
843					**843**	
3/10/2021	843	3,200	273	Crude Oil / Water		**Crude Oil / Water Volume (gal)**
3/19/2021	843	5,000	273	Crude Oil / Water		
4/7/2021	843	5,000	273	Crude Oil / Water	**Bulk Sale of Crude Oil / WWTP**	2,779 / 36921
4/15/2021	843	12,000	273	Crude Oil / Water		
9/23/2021	843	5,500	227	Crude Oil / Water		
9/24/2021	843 line flush	9,000	272	Crude Oil / Water		
848					**848**	
						Crude Oil / Water Volume (gal)
6/29/2021	Tank 848	3,000	272	Water/Crude Oil	**Bulk Sale of Crude Oil / WWTP**	900 / 2100

40,500

Date	From Tank #	Product Qty. (gal)	Transferred To Tank #	Product
885				
6/25/2021	885	3,000	843	Oil/Water Mixed
6/25/2021	885	1,500	843	Oil/Water
8/26/2021	Tank 885	28,000	Frak Tank	Water/Foam
8/27/2021	Tank 885	3,000	Frak Tank	Water/Foam
9/2/2021	Tank 885	9,050	Wash Pad	NA
9/2/2021	Tank 885	420	Wash Pad	Water
9/9/2021	Tank 885	1,500	Wash Pad	Oily/Water
9/9/2021	Tank 885	5,000	Wash Pad	Rain Water
9/9/2021	Tank 885	1,500	NA	Oily Water
9/10/2021	Tank 885	250	NA	Heavy Sludge
9/13/2021	Tank 885	1,000	NA	Water/Sludge
9/14/2021	Tank 885	2,000	NA	Oil/Sludge/Water
886				
2/13/2021	Tank 886	311,100	Tank 843	Water and Crude
2/11/2021	Tank 886	91,000	Tank 843	Crude
2/13/2021	Tank 886	70,200	Tank 843	Oil/Water
2/16/2021	Tank 886	176,100	Tank 843	Oil/Water
2/16/2021	Tank 886	90,300	Tank 843	Oil/Water
2/16/2021	Tank 886	76,800	Tank 843	Oil
3/3/2021	Tank 886	10,700	Tank 843	Crude
3/12/2021	Tank 886	2,400	Tank 843	Oil/Water
5/17/2021	Tank 886	5,500	Tank 843	Line Flush
6/25/2021	Tank 886	1,800	Tank 843	Crude/Water
6/30/2021	Tank 886	900	Tank 843	Liquid
7/1/2021	Tank 886	4,000	Tank 843	Flush Line
7/9/2021	Line by Tank 886	2,600	Tank 843	Crude/Water
7/12/2021	TF 4 / 886 Tank Lines	3,750	Tank 843	Flush
7/12/2021	Tank 886	6,000	Tank 843	Water/Crude
7/13/2021	Tank 886	4,000	Tank 843	Oil/Water
7/14/2021	TF 4 / 886 Tank Lines	2,000	Tank 843	Flush
7/14/2021	Tank 886	3,000	Tank 843	Oil/Water
8/26/2021	Tank 886	5,000	Tank 272	Diesel/Water
3/8/2022	Tank 886	1,500	Tank 273	Liquid
826				
3/10/2021	Tank 826	3,000	Tank 843	Crude
3/11/2021	Tank 826	600	Pump House 15	Oil/Water
3/12/2021	Tank 826	3,000	Tank 843	Crude
2/22/2022	Tank 826	2,800	Tank 227	Oil/Sludge/Crude
2/23/2022	Tank 826	2,800	Tank 227	Oil/Sludge
2/24/2022	Tank 826	63,000	Tank 227	Oil/Sludge
2/25/2022	Tank 826	3,000	Tank 227	Oil
2/28/2022	Tank 826	27,000	Tank 272	Heavy Oil
3/4/2022	Tank 826	6,000	Tank 227	Oil Recovery
3/7/2022	Tank 826	4,000	Tank 227	Heavy Oil
3/8/2022	Tank 826	4,000	Tank 227	Heavy Oil
3/9/2022	Tank 826	2,700	Tank 227	Heavy Oil
3/9/2022	Tank 826	3,000	Tank 227	Heavy Oil
3/11/2022	Tank 826	6,000	Tank 227	Heavy Oil
3/14/2022	Tank 826	6,000	Tank 227	Heavy Oil
3/15/2022	Tank 826	6,000	Tank 227	Heavy Oil
3/16/2022	Tank 826	6,000	Tank 227	Heavy Oil
3/17/2022	Tank 826	6,000	Tank 227	Heavy Oil
3/17/2022	Tank 826	6,000	Tank 227	Heavy Oil
3/22/2022	Tank 826	6,000	Tank 227	Heavy Oil
3/22/2022	Tank 826	6,000	Tank 227	Heavy Oil
3/23/2022	Tank 826	6,000	Tank 227	Heavy Oil
3/25/2022	Tank 826	6,000	Tank 227	Heavy Oil
3/29/2022	Tank 826	6,000	Tank 227	Heavy Oil
3/30/2022	Tank 826	6,000	Tank 227	Heavy Oil
4/1/2022	Tank 826	3,000	Tank 227	Heavy Oil
4/1/2022	Tank 826	1,500	Tank 227	Crude Oil

4/4/2022	Tank 826	1,000	Tank 227	Crude Oil
840				
2/16/2021	Tank 840	900	Blender	Crude/ Gas
5/24/2021	Tank 840	1,500	Pump House 15	Prodat
9/16/2021	Tank 840	1,500	Wash Pad	Waste Water
2/28/2022	Tank 840	2,000	Tank 273	Water/Oil
841				
2/19/2021	841	4,500	843 / Pump House 15	Crude
2/24/2022	Tank 841	3,200	Tank 273	Liquid
3/2/2022	Tank 841	10,500	Tank 273	Heavy Oil
847				
2/27/2021	Tank 847	3,500	Tank 843	Oil Water Mix
3/5/2021	Tank 847	6,400	Tank 843	Crude
3/5/2021	Tank 847	2,400	Tank 843	Water/Crude
3/10/2021	Tank 847	900	Tank 843	Oil
3/8/2021	Tank 847	3,500	Tank 843	Crude/wash Water
3/10/2021	Tank 847	1,200	Tank 843	Oil/Water
9/10/2021	Tank 847	100	Tank 272	Water and Gas
884				
4/30/2021	Tank 884	3,000	Pump House 15	Fuel and Water
5/19/2021	Tank 884	2,500	Tank 843	Line Flush
5/21/2021	Tank 36 & 884	1,200	Tank 843	Flush Water
5/24/2021	Tank 884	1,000	Tank 843	Oil Water
5/25/2021	Tank 884	3,000	Tank 843	Oil Water
5/26/2021	Tank 884	1,600	Tank 843	Oil/Water
5/27/2021	Tank 884	1,600	Tank 843	Oil/Water
5/28/2021	Tank 884	1,600	Tank 843	Oil/Water
6/1/2021	Tank 884	3,000	Tank 843	Oil/Water
6/2/2021	Tank 884	2,600	Tank 843	Oil
6/3/2021	Tank 884	2,800	Tank 843	Oil/Water
6/7/2021	Tank 191 & 884	2,600	Tank 843	Flush Water
6/8/2021	Tank 884	1,900	Tank 843	Flush Water / Crude
6/9/2021	Tank 884	4,900	Tank 843	Crude/Water
6/10/2021	Tank 884	1,950	Tank 843	Oil/Water Mixed
6/25/2021	Tank 884	1,800	Tank 843	Oil/Water
6/28/2021	Pipw Line Near 884	2,100	Tank 843	Oil/Water
6/28/2021	Tank 884 & 885	3,000	Tank 843	Crude/Water
6/30/2021	Tank 884	3,000	Tank 843	Water/Oil
7/2/2021	Tank 884	1,500	Tank 843	Oil/Water
7/7/2021	Tank 884	1,500	Tank 843	Oil/Water
9/17/2021	Tank 884	2,000	Tank 272	Oily Water
5/18/2021	Tank 884	-	843	Flush
9/15/2021	Tank 884	0	Epic Cans	Sludge/Oil/Water
9/15/2021	Tank 884	0	Epic Cans	Sludge/Oil/Water
843				
3/10/2021	Tank 843	3,200	Tank 843	cutter
3/19/2021	Tank 843	5,000	Blender	Diesel/Water
4/7/2021	Tank 843	5,000	Tank 843	Frac Tank
4/15/2021	Tank 843	12,000	Tank 843	Transmix
9/23/2021	Tank 843	5,500	Tank 227	Oil
9/24/2021	Tank 843	9,000	Tank 272	Oil/Flush
848				
6/29/2021	Tank 484	3,000	Tank 219	Water/Oil

PADEP Reg. #	PES Tank ID	Managed as HSM	HSM (tons)
011A	881		
012A	886		
040A	191	Shipment- # 19 thru #20	619.66
049A	826	Shipment - # 28 thru #33	1,793.50
053A	840		
054A	841		
055A	847		
056A	882		
057A	883	Shipments - # 10 and #11	408.69
058A	884		
059A	885		
086A	843	Shipment - # 25 thru #27	1,289.04
088A	848		

Note:

1. All sludges from Tank Group 04 were stabilized for transport and loaded into intermodal containers and then loaded onto rail cars. Each rail car was loaded with 6 intermodal containers of stabilized sludge, placarded, a BOL and way bill completed for each container and then transported by rail to Waste Management's facility in Lake Charles Louisianna for recovery and disposal. Documentation on file & available upon request.

091119-2A

Bill of Lading (Page 1 of 2)

7643369

DOCUMENT # 91119-2A

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

← Ticket 56916

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9.III (BENZENE) PROFILE: 969843LA	CM	24.30	T
		IM CONTAINER# EPIU225096			
		RAIL CAR# EPIX91119			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/17/21	Per: Luis Castro	Date: 11/18/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Dubodeaux Date: 12-14-21

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91119-2A

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Donald Gary	Date: 12-14-21	

CMU 2021276

83240 G
34160 T
49080 N

24.54

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 2021369

WEIGHED BY _____

652168 000111M-2K5

264383

Bill of Lading (Page 1 of 2)

DOCUMENT # 91119-2B

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

Tribb Stop

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9.III (BENZENE)	CM	24.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225158			
		RAIL CAR# EPIX91119			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/17/21	Per: Luis Castro	Date: 11/18/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Dubodeau Date: 12/8-21

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91119-2B

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company		
Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc.	LA0000147272	(800) 336-2169
Acknowledgement of Receipt		
Per:	Date: 12/14/21	

EPA 0515d

TICKET 55

ID: 83560
GROSS 83560 LB 12/14/2021
TARE 12/14/2021

OUTBOUND TICKET 55

GROSS	83560 LB SCALED	83560 G
TARE	34120 LB	34120 T
NET	49440 LB	49440 N

UNIT 20.00 TON

24.72

12/14/2021

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

70453

RECEIVING TICKET # _____

WEIGHED BY _____

091119-2C

Bill of Lading (Page 1 of 2)

DOCUMENT # 91119-2C

764359

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

Ticket 56418

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9.III (BENZENE)	CM	24.30	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225256			
		RAIL CAR# EPIX91119			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/17/21	Per: Luis Castro	Date: 11/18/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc — Certification of receipt of materials

Per: Carrie Dubodeaux Date: 12-13-21

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91119-2C

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Joseph	Date: 12/13/2021	

81380 G
32380 T
49000 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 10139

WEIGHED BY _____

052168 CC41114-2D 2641358

Bill of Lading (Page 1 of 2)

DOCUMENT # 91119-2D

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

Ticket 56419

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.30	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225105			
		RAIL CAR# EPIX91119			
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry *to* its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Per: [signature] Date: 11/17/21

Carrier: CSX Railroad Corp
Per: Luis Castro Date: 11/18/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc. Certification of receipt of materials
Per: Carrie Dembodeaux Date: 12-13-21

264358

Bill of Lading (Page 1 of 2)

DOCUMENT # 91119-2D

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/at 1241

Ticket 56419

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.30	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225105			
		RAIL CAR# EPIX91119			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry *to* its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/17/21	Per: Luis Castro	Date: 11/18/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc. Certification of receipt of materials

Per: Carrie Chaudoin Date: 12-13-21

(illegible)

TICKET 65

ID 65[illegible]
GROSS 83400 [illegible]
DATE/TIME 12/13/2021

[illegible] TICKET 65

GROSS 83400 lb PRODUCT 83400 G
TARE 34500 lb 34500 T
NET 48900 lb 48900 N

[illegible]

[illegible] 12/13/2021

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 704358

WEIGHED BY _____

Bill of Lading (Page 1 of 2)

DOCUMENT # 91119-2E

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4(a) 1241

Ticket 56420

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.13	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225329			
		RAIL CAR# EPIX91119			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry *to* its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/17/21	Per: Luis Castro	Date: 11/18/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carmen Dubodleaux Date: 12-14-21

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91119-2E

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Joseph Cannella	Date: 12/19/2021	

80960 G
32360 T
48600 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 701502

WEIGHED BY _____

Bill of Lading (Page 1 of 2)

DOCUMENT # 91119-2F

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Ticket 56421

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.13	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225127			
		RAIL CAR# EPIX91119			
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry *to* its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/17/21	Per: Luis Castro	Date: 11/18/21

Mark with "X" or "RQ" if applicable to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc — Certification of receipt of materials

Per: Carrie Dubodleaux Date: 12-14-21

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91119-2F

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per:	Date: 12-14-21	

83020 G
32460 T
48760 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 2011504

WEIGHED BY _____

153166 0091027-3A

Bill of Lading (Page 1 of 2)

7641642

DOCUMENT # 91027-3A

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

Ticket 56753

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	24.30	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225153			
		RAIL CAR# EPIX91027			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/17/21	Per: Luis Castro	Date: 11/18/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Date: 12-28-21

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91027-3A

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per:	Date: 12-28-21	

84780 G
35140 T
49640 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 76410

WEIGHED BY _____

163875

0091027-3B

Bill of Lading (Page 1 of 2)

DOCUMENT # 91027-3B

11/04/19

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

Ticket 56765

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	24.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225353			
		RAIL CAR# EPIX91027			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/7/21	Per: Luis Castro	Date: 11/18/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Dubodeau Date: 12-20-21

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91027-3B

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per:	Date: 12-28-21	

85260 G
34740 T
50520 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 7610619

WEIGHED BY _____

Bill of Lading (Page 1 of 2)

DOCUMENT # 91027-3C

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

Ticket 567666

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.38	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225061			
		RAIL CAR# EPIX91027			
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/17/21	Per: Luis Castro	Date: 11/18/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Dubodeaux Date: 12-21-21

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91027-3C

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company
Acknowledgement of Receipt
Per:
Date:

Carrier 3: Chemical Waste Management, Inc. LA0000147272 (800) 336-2169
Acknowledgement of Receipt
Per:
Date: 12-27-21

EPA ID 82860 G
34900 T
47960 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1041609

WEIGHED BY _____

Bill of Lading (Page 1 of 2)

DOCUMENT # 91027-3D

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Ticket 56767

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9.III (BENZENE)	CM	24.00	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225121			
		RAIL CAR# EPIX91027			
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry *to* its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/17/21	Per: Luis Castro	Date: 11/18/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Anne Dubodeaux Date: 12-22-21

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91027-3D

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc.	LA0000147272	(800) 336-2169
Acknowledgement of Receipt Per: Dennis Geary	Date: 12-27-21	

82700 G
34280 T
48420 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 726613

WEIGHED BY _____

1622815

UU41027-3E

Bill of Lading (Page 1 of 2)

7044622

DOCUMENT # 91027-3E

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

Tidal 56168

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.33	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225384			
		RAIL CAR# EPIX91027			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/17/21	Per: Luis Castro	Date: 11/18/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Carrie Dubodeaux	Date: 12-28-21

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91027-3E

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19146
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per:	Date: 12-28-21	

84920 G
34840 T
50080 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # _____

WEIGHED BY _____

052168 UN1268-3F

Bill of Lading (Page 1 of 2)

DOCUMENT # 91027-3F

12/6/2021

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.33	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225244			
		RAIL CAR# EPIX91027			
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/17/21	Per: Luis Castro	Date: 11/18/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Dembodeaux Date: 12-28-21

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91027-3F

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per:	Date:	12-28-21

EPA ID 2224

TICKET 18

ID 653168
GROSS 85420 lbINBOUND
08:50AM 12/28/2021

OUTBOUND TICKET 18

GROSS 85420 lb RECALLED 85420 G
TARE 35660 lb 35660 T
NET 49760 lb 49760 N

TST 24.88 lbN

10:17AM 12/28/2021

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 704620

WEIGHED BY _____

UUU1424-DNT

V532054

Bill of Lading (Page 1 of 2)

DOCUMENT # 91424-2A 7041902

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241

Tidal Storm

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.30	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225300			
		RAIL CAR# EPIX91424			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Rhodelander Date: 1-19-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91424-2A

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Joseph Courville	Date: 11/9/2022	

EPHW30302

TICKET 7

ID 655264
GROSS 85680 lb RECEIVED
01/19/2022

SHIPPING WEIGHT

GROSS	85680 lb RECEIVED	85680 G
TARE	36100 lb	36100 T
NET	49580 lb	49580 N

PPI 95.79 DRY

01/19/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 760190 2

WEIGHED BY _____

0041424-2B

1683515

Bill of Lading (Page 1 of 2)

704909

DOCUMENT# 91424-2B

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241

Tickets Stay w/B

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.35	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225368			
		RAIL CAR# EPIX91424			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Dunbadeaux Date: 1-19-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91424-2B

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc.	LA0000147272	(800) 336-2169
Acknowledgement of Receipt Per: Dennis Gay	Date: 1.19.22	

LPI422 55608

TICKET 1:

ID 653375
GROSS 85360 LB 08/08/2022
TARE 0E 10/29/22

CONTAINER TICKET 14

GROSS 85360 LB RECYCLED 85360 G
TARE 35160 LB 35160 T
NET 50200 LB 50200 N

VEH 25 TO TOP

[illegible] 01/29/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 764909

WEIGHED BY _____

W114034-DC

764882

W52168

Bill of Lading (Page 1 of 2)

DOCUMENT # 91424-2C

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/at 1241

Ticket 56499

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	24.28	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225262			
		RAIL CAR# EPIX91424			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Karl Dawson Date: 1-18-22

84000 G
34340 T
49660 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # _____

WEIGHED BY _____

UU114424-2RN

652570

Bill of Lading (Page 1 of 2)

764855

DOCUMENT # 91424-2D

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2189

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241

Tanks 56 80

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S, 9. III (BENZENE)	CM	24.23	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225349			
		RAIL CAR# EPIX91424			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Cattie Dubadlaux	Date: 1-14-22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91424-2D

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc.	LA0000147272	(800) 336-2169
Acknowledgement of Receipt		
Per:	Date:	1-14-2022

EPA 003347

85580 G
35680 T
49900 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 0041855

WEIGHED BY _____

UU41424-2E

653168

Bill of Lading (Page 1 of 2)

7604900

DOCUMENT # 91424-2E

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

Tabb 56487

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.38	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225067			
		RAIL CAR# EPIX91424			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Dubodleaux Date: 1-19-22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91424-2E

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc.	LA0000147272	(800) 336-2169
Acknowledgement of Receipt Per:	Date:	1-19-22

TICKET 5

85400 G
35620 T
49780 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 766900

WEIGHED BY _____

00914824-2F
764886

653375

Bill of Lading (Page 1 of 2)

DOCUMENT # 91424-2F

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Tolled 5647

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.23	T
		PROFILE: 989843LA			
		IM CONTAINER# EPIU225118			
		RAIL CAR# EPIX91424			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 49 Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Kari Darbonne	Date: 01-18-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91424-2F

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LADD00777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc.	LA0000147272	(800) 336-2169
Acknowledgement of Receipt Per: Daniel Cary	Date: 1.18.22	

85260 G
35320 T
49940 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # _____

WEIGHED BY _____

0041043-84

1733504

764933

Bill of Lading (Page 1 of 2)

DOCUMENT # 91093-3A

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

Ticket 51654

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9.III (BENZENE)	CM	24.35	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225278			
		RAIL CAR# EPIX91093			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry *to* its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC	Carrier: CSX Railroad Corp
Per: [signature] Date: 11/19/21	Per: Luis Castro Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 49 Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: [signature]	Date: 11/20/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91093-3A

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc.	LA0000147272	(800) 336-2169
Acknowledgement of Receipt		
Per: Joseph Connelly	Date: 1/20/2022	

81000 G
31140 T
49860 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 764933

WEIGHED BY _____

0091093-3B

168168

764949

Bill of Lading (Page 1 of 2)

DOCUMENT # 91093-3B

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Ticket 56548

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.40	T
		PROFILE: 989843LA			
		IM CONTAINER# EPIU225247			
		RAIL CAR# EPIX91093			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(e) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Jennifer Malloy	Date: 11/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91093-3B

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per:	Date: 1-20-22	

5247

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

85580 G
35420 T
50160 N

RECEIVING TICKET # 76549

WEIGHED BY _____

Bill of Lading (Page 1 of 2)

DOCUMENT # 91093-3C

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

Ticket 56549

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225319			
		RAIL CAR# EPIX91093			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Date: 1-20-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91093-3C

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M. LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per:	Date: 1-20-22	

TICKET #

ID 653160
GROSS 85560 lb INBOUND
08:44AM 01/20/2022

OUTBOUND TICKET #

GROSS	85560 lb	RECALLED	85560 G
TARE	35040 lb		35040 T
NET	50520 lb		50520 N

NET 25.26 TONS

10:10AM 01/20/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # K4928

WEIGHED BY _____

00411093-3D

05268

764915

Bill of Lading (Page 1 of 2)

DOCUMENT # 91093-3D

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 226-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

Tidd 56550

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225019			
		RAIL CAR# EPIX91093			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry *to* its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Dembodeau Date: 1-19-22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91093-3D

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per:	Date: 1-19-22	

EPA(22)019

85400 G
35160 T
50240 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 264715

WEIGHED BY _____

UUU1U45-3E

1033515

764235

Bill of Lading (Page 1 of 2)

DOCUMENT # 91093-3E

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Trlr# 56551

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9, III (BENZENE)	CM	24.25	T
		PROFILE: 989843LA			
		IM CONTAINER# EPIU225274			
		RAIL CAR# EPIX91093			
		ERG# 171 H039			

NFA

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 49 Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per:	Date: 11/20/21

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91093-3E

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc.	LA0000147272	(800) 336-2169
Acknowledgement of Receipt Per:	Date:	1.20.22

85300 G
35380 T
49920 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 76935

WEIGHED BY _____

UU41045-3F

1053204

Bill of Lading (Page 1 of 2)

7041913

DOCUMENT # 91093-3F

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Truck 516552

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225245			
		RAIL CAR# EPIX91093			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Carrie Dubodeau	Date: 1-19-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91093-3F

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Joseph	Date: 11/9/2022	

86180 G
36220 T
49960 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 7C1913

WEIGHED BY _____

053155 UU41143-2A

Bill of Lading (Page 1 of 2)

DOCUMENT # 91143-2A 704839

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

Ticket 56554

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.20	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225027			
		RAIL CAR# EPIX91143			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11-19-21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Terrie Dubadeaux	Date: 1-13-22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91143-2A

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272 (800) 336-2169
Per: Joseph Connolly	Date: 11/7/2022

85800 G
35980 T
49820 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 164804

WEIGHED BY _____

UN9114S-2B

152168

Bill of Lading (Page 1 of 2)

7004844

DOCUMENT # 91143-2B

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 088
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241

Ticket 56555

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.28	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225265			
		RAIL CAR# EPIX91143			
		ERG# 171 H039			

NP

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Dubodleux Date: 1-14-22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91143-2B

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272 (800) 336-2169
Per:	Date: 1-14-22

84440 G
34800 T
49640 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 764849

WEIGHED BY _____

W533815

UU41143-2C

Bill of Lading (Page 1 of 2)

DOCUMENT # 91143-2C

760483

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Tank 56556

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.40	T
		PROFILE: 969843LA			
		IM CONTAINER# ~~EPIU225074~~			
		RAIL CAR# EPIX91143			
		EPIU225079 Bpk			
		ERG# 171 H039			

N/A

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/17/19	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Cathie Dubodeaux	Date: 1-13-22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91143-2C

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per:	Date:	1.13.22

84560 G
34460 T
50100 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 76410

WEIGHED BY _____

UN9114 3 2 N

1653815

Bill of Lading (Page 1 of 2)

DOCUMENT # 91143-2D

7(c)(1)(C)

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241

Ticket 36557

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	24.28	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225001		nh	
		RAIL CAR# EPIX81143			
		ERG# 171 H039		170	39

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9, Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Dunbodeaux Date: 1-4-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91143-2D

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per:	Date: 1-14-22	

85560 G
35580 T
49980 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 42847

WEIGHED BY _____

001143-2E

653168

7004854

Bill of Lading (Page 1 of 2)

DOCUMENT # 91143-2E

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/e/ 1241

Ticket 36558

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.35	T
		PROFILE: 889643LA			
		IM CONTAINER# EPIU225229			
		RAIL CAR# EPIX91143			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Dubodleaux Date: 1-14-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91143-2E

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per:	Date: 1.14.22	

EPA ID# [illegible]

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 20-1854

WEIGHED BY _____

0041143-2F

153168

764831

Bill of Lading (Page 1 of 2)

DOCUMENT # 91143-2F

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9.III (BENZENE)	CM	24.33	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225372			
		RAIL CAR# EPIX91143			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Carrie Richardson	Date: 1-13-22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91143-2F

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049781 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per:	Date:	1-13-22

84680 G
34700 T
49980 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 744831

WEIGHED BY _____

Bill of Lading (Page 1 of 2)

DOCUMENT # 91070-3A

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

Ticket 516883

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.25	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225238			
		RAIL CAR# EPIX91070			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Carrie Dunbar	Date: 1-12-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91070-3A

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Darrell Geary	Date: 1.11.22	

84540 G
34680 T
49860 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 110800

WEIGHED BY _____

0041070-3B

153168

Bill of Lading (Page 1 of 2)

DOCUMENT # 91070-3B

704817

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

Ticket 96484

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.25	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225373			
		RAIL CAR# EPIX91070			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Per: [signature] Date: 11/19/21

Carrier: CSX Railroad Corp
Per: Luis Castro Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Dubodeaux Date: 1-12-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91070-3B

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc.	LA0000147272	(800) 336-2169
Acknowledgement of Receipt Per:	Date:	2-11-22

84520 G
34860 T
49660 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1046812

WEIGHED BY _____

091070-3C

764812

Bill of Lading (Page 1 of 2)

DOCUMENT # 91070-3C

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241

Ticket 56485

NH

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	24.28	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225223			
		RAIL CAR# EPIX91070			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per:	Date: 01-20-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91070-3C

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc.	LA0000147272	(800) 336-2169
Acknowledgement of Receipt		
Per: Dennis Lowery	Date: 1.12.22	

84700 G
34660 T
50040 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # _____

WEIGHED BY _____

Bill of Lading (Page 1 of 2)

DOCUMENT # 91070-3D

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Tullo S6486

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.33	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU226352			
		RAIL CAR# EPIX91070			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Leding does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Thibodeaux Date: 1-11-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91070-3D

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc.	LA0000147272	(800) 336-2169
Acknowledgement of Receipt		
Per:	Date: 1-11-22	

85120 G
35220 T
49900 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1(1(1(1(1(1(1

WEIGHED BY _____

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Bill of Lading (Page 1 of 2)

DOCUMENT # 91070-3E

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225204			
		RAIL CAR# EPIX91070			
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Carrie Rhodelamix	Date: 1-12-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91070-3E

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 226-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per:	Date:	1-11-22

85280 G
35140 T
50140 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1041805

WEIGHED BY _____

UU4110110-3F

053168

Bill of Lading (Page 1 of 2)

DOCUMENT # 91070-3F

764796

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 226-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/at 1241

Ticket 56488

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.38	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225361			
		RAIL CAR# EPIX91070			
		ERG# 171 H039			

NH

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 11/19/21	Per: Luis Castro	Date: 11/19/21

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Dubois Date: 1-11-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91070-3F

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per:	Date:	1-11-22

85040 G
35040 T
50000 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 701796

WEIGHED BY _____

1653004 OOU1150-3A 745625

Bill of Lading (Page 1 of 2)

91150-3A

DOCUMENT #

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1624

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

Ticket 56038

SHIPPER'S INSTRUCTIONS

48,460

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.23	T
		PROFILE: 969843I.A			
		IM CONTAINER# EPIU226217			
		RAIL CAR# EPIX91150			
				NH	
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp	
Per:		Date:	Per: Luis Castro	Date: 2/2/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Kari Darbonne	Date: 2-28-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91150-3A

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNK AVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1624

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: joseph connelle	Date: 2/28/2022	

79200 G
30760 T
48440 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # _____

WEIGHED BY _____

004115D-3B

765624

Bill of Lading (Page 1 of 2)

91150-3B

DOCUMENT #

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 080
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 220-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241

Ticket 56039

SHIPPER'S INSTRUCTIONS

NH

48,700

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.35	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225141			
		RAIL CAR# EPIX91150		NH	
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:		Date:	Per: Luis Castro		Date: 2/2/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 2/28/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91150-3B

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per:	Date: 2-28-22	

82940 G
33900 T
49040 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 7165024

WEIGHED BY _____

0553515 0041150-3C TL05-L008

Bill of Lading (Page 1 of 2)

91150-3C

DOCUMENT #

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 698
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 226-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/at 1241 Ticket 56040	

49,100

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.55	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225339			
		RAIL CAR# EPIX91160			
				KJR	
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:		Date:	Per: Luis Castro	Date:	2/2/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicek Date: 2/08/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91150-3C

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNK AVE
EPA ID: PAD 049791 088
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1624

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per:	Date: 2-28-22	

TICKET 14

ID: 63776
GROSS 82100 lb GROSS
08:49:18 02/28/2008

CHEMICAL TICKET 14

SPACE	82100 lb RECEIVED	82100 G
TARE	34000 lb	34000 T
NET	48100 lb	48100 N

NET 24.05 ton

ID: 14601 02/28/2008

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1105608

WEIGHED BY _____

663514 091150-3D 765610

Bill of Lading (Page 1 of 2)

91150-3D

DOCUMENT #

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 088
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241 Ticket 56041	

48,700

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.35	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225075			
		RAIL CAR# EPIX91150			
				NH	
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date:	Per: Luis Castro	Date: 2/2/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Rolinda Spicer	Date: 2/28/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91150-3D

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Vernon K Paul	Date:	2-28-20

82600 G
34140 T
48460 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1145610

WEIGHED BY _____

1653804 0091150-3E

Bill of Lading (Page 1 of 2)

7165635

91150-3B

DOCUMENT #

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241	
Ticket 56042	

48,400

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.20	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225321			
		RAIL CAR# EPIX91150		NH	
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:		Date:	Per: Luis Castro	Date:	2/2/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials	
Per: Belinda Spicer	Date:	2/1/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91150-3E

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 090
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 220-1624

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Joseph Connelly	Date: 3-1-2022	

CPLW-3041

TICKET 24

ID 653509
GROSS 83620 lb INBOUND
08:46AM 03/01/2022

OUTBOUND TARE 24

GROSS 83620 lb SCALED 83620 G
TARE 35200 lb 35200 T
NET 48420 lb 48420 N

OFF 24.21 TON

DISPOSED 03/01/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 765135

WEIGHED BY _____

1053514 009150-3F 7605626

Bill of Lading (Page 1 of 2)

91150-3F

DOCUMENT #

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 040791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241 Ticket 56043	

48,660

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.33	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225225			
		RAIL CAR# EPIX91150			
				NH	
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:		Date:	Per: Luis Castro	Date: 2/2/22	

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 2/28/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91150-3F

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Vernon K Paul, Verified	Date: 2-28-22	

CMW 2005

DIRECT 40

ID [illegible]
GROSS 82180 LB [illegible]
01:27PM 02/20/2025

[illegible] 40

[illegible] 82180 LB 82180 G
TARE 33820 LB 33820 T
NET 48360 LB 48360 N

[illegible]

[illegible] 02/20/2025

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 7605126

WEIGHED BY _____

1153209 UN1141-3A 7105649

Bill of Lading (Page 1 of 2)

DOCUMENT # 01141-3A

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 090
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241 Ticket 55595	

48,360

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.18	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225085			
		RAIL CAR# EPIX01141		NH	
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery on said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:	[signature]	Date:	Per: Luis Castro	Date:	2/2/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 3/1/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91141-3A

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1624

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Joseph Cook	Date: 3-1-2022	

EPU92-0085

TICKET 47

ID 653209.
GROSS 83440 lbINBOUND
12:26PM 05/01/2022

OUTBOUND TICKET 47

GROSS 83440 lb RECEIVED 83440 G
TARE 35080 lb 35080 T
NET 48360 lb 48360 N

DEI 94.10 lbH

12:51PM 05/01/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 765619

WEIGHED BY _____

W53155

001114-3B

765653

Bill of Lading (Page 1 of 2)

DOCUMENT # 91141-3B

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241 Ticket 55596	

48,760

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	24.38	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225109		NH	
		RAIL CAR# EPIX91141			
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:	[signature]	Date:	Per: Luis Castro		Date: 2/2/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 8. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 2/1/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91141-3B

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 090
City/State/Zip: PHILADELPHIA, PA 19146
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc.	LA0000147272	(800) 336-2169
Acknowledgement of Receipt Per: Vernon K Paul	Date: 3-1-22	

CP1465107

TICKET 53

ID 653155
GROSS 83900 lbINBOUND
01:08PM 03/01/2022

[illegible] 53

[illegible] 83900 G
[illegible] 35160 T
[illegible] 48740 N

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 7656053

WEIGHED BY _____

00911410C

765637

Bill of Lading (Page 1 of 2)

DOCUMENT # 91141-3C

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241	NH
Ticket 55593	

48,700

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III (BENZENE)	CM	24.35	T
		PROFILE: 869843LA			
		IM CONTAINER# EPIU225284			
		RAIL CAR# EPIX91141			
				NH	
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:		Date:	Per: Luis Castro	Date:	2/2/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per:	Date:

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91141-3C

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Vernon K Paul	Date: 3-1-22	

EPA223284

TICKET 26

To 653155
GROSS 84140 lb INBOUND
09:18AM 03/01/2022

OUTBOUND TARE 26

GROSS	84140 lb RECEIVED	84140 G
TARE	35420 lb	35420 T
NET	48720 lb	48720 N

PCT 24.36 lbs

10:57AM 03 01 2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 7605637

WEIGHED BY _____

65555 DOH1141-3D 765639

Bill of Lading (Page 1 of 2)

DOCUMENT # 91141-3D

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT . INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241 Ticket 55594	

48,560

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.28	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225239			
		RAIL CAR# EPIX91141			
				NH	
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:	[signature]	Date:	Per: Luis Castro		Date: 2/2/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 0. Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 3/1/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91141-3D

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNK AVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: [signature]	Date: 3-1-22	

(714)

TICKET 30 259

TP 653375
GROSS 83020 lb INBOUND
09:56AM 05/01/2022

OUTBOUND TICKET 30

GROSS 83020 lb RECALLED 83020 G
TARE 34260 lb 34260 T
NET 48760 lb 48760 N

NET 24.38 TON

10:53AM 05/01/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1605[illegible]

WEIGHED BY _____

1052809 091141-3E 7165659

Bill of Lading (Page 1 of 2)

DOCUMENT # 91141-3E

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1624

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241 Truck 55597	

48,760

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.36	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225242			
		RAIL CAR# EPIX91141			
				NH	
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:	[signature]	Date:	Per: Luis Castro		Date: 2/2/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Brenda Spicer Date: 3/2/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91141-3E

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Vernon K PAW	Date: 3-2-22	

CPLUJ2-5242

TICKET 15

ID 653209
GROSS 84300 LB INBOUND
08:49AM 03/02/2022

OUTBOUND TICKET 15

GROSS 84300 lb RECALLED 84300 G
TARE 35520 lb 35520 T
JET 48780 lb 48780 N

JET 24.3° TOL

DATED 03/02/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1605059

WEIGHED BY _____

663515 001141-3F

765689

Bill of Lading (Page 1 of 2)

DOCUMENT # 91141-3F

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 220-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241	
Ticket 55602	

48,300

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.15	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225251			
		RAIL CAR# EPIX91141			
				NET	
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry *to* its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:		Date: 2-2-22	Per: Luis Castro		Date: 2/2/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 3/3/20

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91141-3F

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 220-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Derrick Gary	Date: 3-1-22	

EM1423231

TICKET 7

ID 653374
GROSS 82380 lbINBOUND
07:07AM 03/03/2022

OUTBOUND TICKET 7

TARE 48060 lb RECALLED
NET 34320 lb
NET 24.03 TON

03/03/2022

82380 G
34320 T
48060 N

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1105159

WEIGHED BY _____

0041494-2A

V528514

765600

Bill of Lading (Page 1 of 2)

DOCUMENT # 91494-2A

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 226-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 55603	

48,360

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9.III (BENZENE)	CM	24.18	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU226366			
		RAIL CAR# EPIX91494			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:		Date:	Per: Luis Castro	Date:	2/2/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 8. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Carrie Carmichael	Date: 2-25-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91494-2A

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 220-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: Vernon K PA01	Date: 2-25-22

82140 G
34000 T
48140 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 16600

WEIGHED BY _____

0041494-2B

165304

765606

Bill of Lading (Page 1 of 2)

DOCUMENT # 91494-2B

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 55604	

48,700

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.35	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225793			
		RAIL CAR# EPIX91494			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date:	Per: Luis Castro	Date: 2/2/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per:	Date: 2-28-22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91494-2B

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 503-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M I.L.C
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt Per: Joseph Conklee	Date: 2/26/2022

79480 G
30760 T
48720 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # _____

WEIGHED BY _____

1583814 W11494-2C 765579

Bill of Lading (Page 1 of 2)

DOCUMENT # 91494-2C

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 090
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241	
Tedat 55605	

48,900

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.45	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225215		17039	
		RAIL CAR# EPIX91494			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:		Date:	Per: Luis Castro		Date: 2/2/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Vernon Bourt	Date: 2/25/22

Carrie Chabodeaux 2-25-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91494-2C

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 220-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: Vernon K [illegible]	Date: 7-25-22

EMI.033015

TICKET 16

ID 653374
GROSS 83140 LB RECEIVED
TARE 34160 LB
NET 48980 LB

TICKET 16

GROSS	83140 LB RECEIVED	83140 G
TARE	34160 LB	34160 T
NET	48980 LB	48980 N

02/25/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 765529

WEIGHED BY _____

165804

UU91444-2D

765528

Bill of Lading (Page 1 of 2)

DOCUMENT # 91494-2D

8

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 090
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241 Ticket 55608	

48,800

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225269		H039	
		RAIL CAR# EPIX91494			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:		Date:	Per: Luis Castro		Date: 2/2/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 0. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc — Certification of receipt of materials

Per: Carrie Rhubodeaux — Date: 2-25-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 81494-2D

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 088
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: Joseph Comuelle	Date: 2/25/2022

E1114225
367

80020 G
31260 T
48760 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 765528

WEIGHED BY _____

V091494-2E

V65504

Bill of Lading (Page 1 of 2)

765589

DOCUMENT # 91494-2E

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19146
Phone: (337) 583-2169	Phone: (440) 228-1624

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241 Ticket 35609	

48,800

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU226307			
		RAIL CAR# EPIX91494			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date:	Per: Luis Castro	Date: 2/2/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 49 Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Dubodeau Date: 2-26-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91494-2E

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: Joseph	Date: 2/25/2022

79780 G
31100 T
48680 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 765579

WEIGHED BY _____

091494-2F

165815

Bill of Lading (Page 1 of 2)

265584

DOCUMENT # 91494-2F

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1624

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241	
Tidal 36027	

48,260

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.13	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225228			
		RAIL CAR# EPIX91494		11	
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:		Date:	Per: Luis Castro	Date:	2/2/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc		Certification of receipt of materials	
Per: Carrie Richardson	Date:	2-25-22	

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91494-2F

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNK AVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 220-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt Per: Dennis Leary	Date: 2-25-22

EPA ID 25 234

TICKET 25

ID 453375
68803 82740 INBOUND
09:49AM 02/25/2022

INBOUND TICKET 25

Spec 82740 H-BEARING 82740 G
Tot 34280 Tn 34280 T
Net 48460 Lb 48460 N

Act [illegible]

Vehicle [illegible]

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

1105114

RECEIVING TICKET # _____

WEIGHED BY _____

Patrick Dauria

From: Doan, Janet <JDoan@wm.com>
Sent: Tuesday, March 29, 2022 10:21 AM
To: Patrick Dauria
Cc: Rhyne, John
Subject: EPIX 91085
Attachments: 91085.pdf

Good morning!
I hope you are having a wonderful day today 😊

Attached are BOLs and weight tickets for 91085.

5395 and 5383 were invoiced at solidification rate all others at solid rate

Thank you for your business.

JANET DOAN
Scheduling Coordinator
Gulf Coast Area
GulfCoastScheduling@wm.com
jdoan@wm.com

Main: 337.583.3700
Direct: 337.583.3745
7170 John Brannon Road
Sulphur, LA 70665

☑ APPROVED

165255 001/080-011 164079

Bill of Lading (Page 1 of 2)

DOCUMENT # 91085-3A

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT Inc INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 61143	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9.III (BENZENE)	CM	21.48	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225337			
		RAIL CAR# EPIX91085			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:	[signature]	Date: 2/18/2022	Per: Luis Castro	Date: 2/18/22	

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazerdous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 3/25/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91085-3A

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt Per: Vince Paul	Date: 3-25-22

EPIU0000551

76360
34180
Net - 41580

2079

41580 Net

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 116279

WEIGHED BY _____

1683815 009108S-3B

Bill of Lading (Page 1 of 2)

7/26/01

DOCUMENT # 91085-3B

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT, Inc INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 611474	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	23.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225395			
		RAIL CAR# EPIX91085			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to Us usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:		Date: 2/18/2022	Per: Luis Castro		Date: 2/18/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 3/28/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91085-3B

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt Per:	Date: 5.28.22

CPU 025547

TICKET 54

ID 653375
GROSS 80860 lbINBOUND
01:33PM 03/28/2022

OUTBOUND TICKET 54

GROSS	80860 lb	SCALLED	80860 G
TARE	33960 lb		33960 T
NET	46900 lb		49600 N

OFF 23.45 lbs

02:50PM 03/28/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 766611

WEIGHED BY _____

0533575 CU11V85-SC 7L6D01

Bill of Lading (Page 1 of 2)

DOCUMENT # 91085-3C

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241	
Tickets 61145	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.33	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225360			
		RAIL CAR# EPIX91085			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry *to* Its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:	[signature]	Date: 2/18/2022	Per: Luis Castro		Date: 2-18-22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 3/25/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91085-3C

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272 (800) 336-2169
Per:	Date: 3-25-22

EPA1225360

TICKET 19

ID 653375
GROSS 82860 lbINBOUND
08:58AM 03/25/2022

OUTBOUND TICKET 19

GROSS 82860 lb RECALLED
TARE 34220 lb
NET 48640 lb

82860 G
34220 T
48640 N

QC1 24.32 lbs

10:51AM 03/25/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1660161

WEIGHED BY _____

0533015 W11085-3N 166077

Bill of Lading (Page 1 of 2)

DOCUMENT # 91085-3D

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241
Ticket 161146

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.13	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225383			
		RAIL CAR# EPIX91085			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:	[signature]	Date: 2/18/2022	Per: Luis Castro	Date: 2/18/22	

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials	
Per: Belinda Spicer	Date: 3/25/20	

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91085-3D

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per:	Date: 3-25-22

EPID22205

TICKET 46

ID 653375
GROSS 82380 lbINBOUND
12:55PM 03/25/2022

INBOUND TICKET 46

GROSS 82380 lb RECALLED 82380 G
TARE 33960 lb 33960 T
NET 48420 lb 48420 N

QTY 24.21 TON

12:29PM 03/25/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 76077

WEIGHED BY _____

163155 0091085-3E 764089

Bill of Lading (Page 1 of 2)

DOCUMENT # 91085-3E

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241 Tickets 611147	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9.III (BENZENE)	CM	24.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225272			
		RAIL CAR# EPIX91085			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/18/2022	Per: Luis Castro	Date: 2/18/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 3/28/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91085-3E

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. LA0000147272 (800) 336-2169 Acknowledgement of Receipt	
Per: Vernon K Paul	Date: 3-28-22

79240 G
30760 T
48480 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 16459

WEIGHED BY _____

10884 0091085-3F 764082

Bill of Lading (Page 1 of 2)

DOCUMENT # 91085-3F

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19146
Phone: (440) 228-1524

ADDITIONAL INFORMATION
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Tides

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	24.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU226211			
		RAIL CAR# EPIX91085			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry *to* Us usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/18/2022	Per: Luis Castro	Date: 2/18/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 3/28/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91085-3F

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272 (800) 336-2169
Per: Joseph Cornelius	Date: 3/25/2022

EPIU 032811

TICKET 14

ID 653504
GROSS 80440 lb INBOUND
08:20AM 03/28/2022

OUTBOUND TICKET 14

GROSS 80440 lb RECALLED 80440 G
TARE 31540 lb 31540 T
NET 48900 lb 48900 N

US-1 24.45 TON

10:04AM 03/28/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 100082

WEIGHED BY _____

Patrick Dauria

From: Doan, Janet <JDoan@wm.com>
Sent: Monday, April 25, 2022 1:47 PM
To: Patrick Dauria
Cc: Rhyne, John
Subject: EPIX 91133-3
Attachments: 91133-3.pdf

Patrick,

91133-3~~A~~B, box 5~~190~~195 was invoiced at the solidification rate.
91133-3C, box 5291 was overweight.

Thanks,

JANET DOAN
Scheduling Coordinator
Gulf Coast Area
GulfCoastScheduling@wm.com
jdoan@wm.com

Main: 337.583.3700
Direct: 337.583.3745
7170 John Brannon Road
Sulphur, LA 70665

Bill of Lading (Page 1 of 2)

DOCUMENT # 91133-3A

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD,	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 41136	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	21.50	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225190			
		RAIL CAR# EPIX91133			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry *to* its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/18/2022	Per: Luis Castro	Date: 2/18/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 4/5/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91133-3A

TO ---------- FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Vernon Paul	Date: 6-14-22	

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 76250

WEIGHED BY _____

1053504 UU41133-OD 266254

Bill of Lading (Page 1 of 2)

DOCUMENT # 91133-3B

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 61137	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	22.05	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225295			
		RAIL CAR# EPIX91133			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/18/2022	Per: Luis Castro	Date: 2-18-22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Richardeaux Date: 4-5-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91133-3B

TO ——— FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272 (800) 336-2169
Per: Cody Smith	Date: 4-5-22

E # 14225 272

TICKET 20

TP 653504
GROSS 74980 LbINBOUND
08:54AM 04/05/2022

[illegible] TICKET

[illegible]	74980 lb	RECEIVED	74980 G
[illegible]	31040 lb		31040 T
NET	43940 lb		43940 N

[illegible] 31.97 DRM

[illegible] 04/05/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

7006254

RECEIVING TICKET # _____

WEIGHED BY _____

605815 W11133-3C 766259

Bill of Lading (Page 1 of 2)

DOCUMENT # 91133-3C

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241 Ticket 611385	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9, III (BENZENE)	CM	23.88	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225291			
		RAIL CAR# EPIX91133			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to Us usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:	[signature]	Date: 2/18/2022	Per: Luis Castro	Date: 2/18/22	

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 4/5/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91133-3C

TO FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. LA0000147272 (800) 336-2169 Acknowledgement of Receipt	
Per:	Date: 4-5-22

LP14 22271

TICKET 24

ID 653375
GROSS 82200 lb INBOUND
09:15AM 04/05/2022

OUTBOUND TICKET 24

GROSS 82200 lb RECALLED
TARE 34660 lb
NET 47540 lb

NET 23.77 TON

01:40PM 04/05/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 766259

WEIGHED BY _____

A137

1033515 CW111333-3N 166232

Bill of Lading (Page 1 of 2)

DOCUMENT # 91133-3D

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Tidal 6/139	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	22.70	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225042			
		RAIL CAR# EPIX91133			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Leding, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to Us usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/18/2022	Per: Luis Castro	Date: 2/18/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Snicer	Date: 4/4/20

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91133-3D

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt Per:	Date: 4.4.22

TICKET 27

ID 653375
GROSS 78260 lbINBOUND
10:02AM , 04/04/2022

OUTBOUND TICKET 27

[illegible]	78260 lb REGALLED	78260 G
TARE	34840 lb	34840 T
NET	43420 lb	43420 N

NET 21.71 TON

[illegible] 04/04/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 716282

WEIGHED BY _____

1 053504 CWI1165 52C 760246

Bill of Lading (Page 1 of 2)

DOCUMENT # 91133-3E

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 61140	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	20.85	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225267			
		RAIL CAR# EPIX91133			
		ERG# 171 H039	NH		

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/18/2022	Per: Luis Castro	Date: 2/18/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 4/4/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91133-3E

TO FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/Stale/Zip: SULPHUR LA 70665	City/Stale/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: [signature]	Date: 4-4-22	

E P114222 26)

TICKET 49

TD 653504
GROSS 73020 LB INBOUND
01:02PM 04/04/2022

OUTBOUND TARE 49

GROSS	73020 LB RECALLED	73020 G
TARE	31280 LB	31280 T
NET	41740 LB	41740 N

01 01.87 TON

02:47PM 04/04/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 7062446

WEIGHED BY _____

153497 UN1105-01

Bill of Lading (Page 1 of 2)

766231

DOCUMENT # 91133-3F

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241 Trdt 6/1141	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	21.15	T
		PROFILE: 969843LA			
		IM CONTAINER# ~~EPX0225233~~ EPIU225233 L.C.			
		RAIL CAR# EPIX91133			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:		Date: 2/18/2022	Per: Luis Castro	Date: 2/18/22	

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Sucan Date: 4/4/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91133-3F

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: Vernon K PAJ	Date: 4-4-20

EPA 22252

TICKET 26

[illegible] 453488
[illegible] 72420 INBOUND
[illegible] 04/04/2022

[illegible] 72420 G
30700 T
41720 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 7La0231

WEIGHED BY _____

Patrick Dauria

From: Doan, Janet <JDoan@wm.com>
Sent: Monday, April 25, 2022 1:28 PM
To: Patrick Dauria
Cc: Rhyne, John
Subject: 91063-3
Attachments: 91063-3.pdf

All solid
91063-3A, 91063-3B, 91063-3D & 91063-3E were overweight.

JANET DOAN
Scheduling Coordinator
Gulf Coast Area
GulfCoastScheduling@wm.com
jdoan@wm.com

Main: 337.583.3700
Direct: 337.583.3745
7170 John Brannon Road
Sulphur, LA 70665

Recycling is a good thing. Please recycle any printed emails.

165304 0091063-3A 160304

Bill of Lading (Page 1 of 2)

DOCUMENT # 91063-3A

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 66428	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.05	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225146			
		RAIL CAR# EPIX91063			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/18/2022	Per: Luis Castro	Date: 2/18/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations. Also, when shipping hazardous meterials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per Belinda Spicer	Date: 4/6/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91063-3A

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Vernon K Paul	Date: 4-16-20	

EPA 2223196

TICKET 37

IP 653204
GROSS 83660 lb INBOUND
11:17AM 04/06/2022

OUTBOUND TICKET 37

GROSS	83660 lb RECEIVED	83660 G
TARE	35260 lb	35260 T
NET	48400 lb	48400 N

NET 24.20 TON

01:37PM 04/06/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 760304

WEIGHED BY _____

Bill of Lading (Page 1 of 2)

DOCUMENT # 91063-3B

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 61129	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9.III (BENZENE)	CM	24.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225133			
		RAIL CAR# EPIX91063			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:	[signature]	Date: 2/18/2022	Per: Luis Castro	Date	2/18/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 4/7/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91063-3B

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: [signature]	Date: 4-7-22

E/T(1)-2(1)

TICKET 19

ID 663375
GROSS 83480 lbINBOUND
08:48AM 04/07/2022

OUTBOUND TICKET 19

GROSS 83480 lb METALED 83480 G
TARE 34480 lb 34480 T
NET 49000 lb 49000 N

OUT 04/07/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 706307

WEIGHED BY _____

1658504 WMI0053547660277

Bill of Lading (Page 1 of 2)

DOCUMENT # 91063-3C

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT Inc INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 66130	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	23.30	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225334			
		RAIL CAR# EPIX91063			
		ERG# 171 H039	NH		

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/18/2022	Per: Luis Castro	Date: 2/18/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials	
Per: Belinda Spicer	Date: 4/6/22	

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91063-3C

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt Per: [signature]	Date: 4-5

TICKET 5

78340 G
30740 T
48100 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 7100277

WEIGHED BY _____

Bill of Lading (Page 1 of 2)

DOCUMENT # 91063-3D

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241 Ticket 61131	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III (BENZENE)	CM	23.23	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225322			
		RAIL CAR# EPIX91063			
		ERG# 171 H039	NH		

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:	[signature]	Date: 2/18/2022	Per: Luis Castro	Date: 2/18/22	

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials.

Per: Belinda Spicer Date: 4/6/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91063-3D

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: V RVNOA K PAUL	Date: 4-5-22

TICKET G

ID 653204
GROSS 83900 LbINBOUND
04/06/2022

83900 G
38240 T
45660 N

L15660

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 106279

WEIGHED BY _____

0091063 3E 7663312

Bill of Lading (Page 1 of 2)

153375

DOCUMENT # 91063-3E

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241	
Tebb 61132	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	23.28	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225052			
		RAIL CAR# EPIX91063			
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:		Date: 2/18/2022	Per: Luis Castro	Date:	2/18/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 4/6/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91063-3E

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/Stale/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/Stale/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272 (800) 336-2169
Per: [signature]	Date: 4-6-22

EPA223012

TICKET 50

ID 653375
SPRGS R1280 IDINBOUND
12:56PM 08/06/2022

ORIGINAL TICKET 50

SPRGS	83200 lb REGALIA	83200 G
TARE	34700 lb	34700 T
NET	48500 lb	48500 N

OUT 08/06/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 7660312

WEIGHED BY _____

1628004 UU11063-8 766309

Bill of Lading (Page 1 of 2)

DOCUMENT # 91063-3F

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Tcdd 61133	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	23.18	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225243			
		RAIL CAR# EPIX91063			
		ERG# 171 H039	NT		

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:	[signature]	Date: 2/18/2022	Per: Luis Castro		Date: 2-18-22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Dubordieux Date: 2-18-22

Bill of Lading (Page 1 of 2)

766309

DOCUMENT # 91063-3F

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Tanks 61133

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9.III (BENZENE)	CM	23.18	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225243			
		RAIL CAR# EPIX91063			
		ERG# 171 H039	NT		

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/18/2022	Per: Luis Castro	Date: 2-18-22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Carrie Dembowczyk	Date: 2-18-22

CH142343

TICKET 39

TF 65350A
GROSS 71420 Lb GARBOARD
TI: 2784 04/06/2022

GARBOARD TICKET 39

GROSS	71420 lb	RECALLED	71420 G
TARE	31040 lb		31040 T
NET	40380 lb		40380 N

NET 20.19 TON

TI: 2784 04/06/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 760306

WEIGHED BY _____

Patrick Dauria

From: Doan, Janet <JDoan@wm.com>
Sent: Monday, March 28, 2022 9:18 AM
To: Patrick Dauria
Cc: Rhyne, John
Subject: EPIX 91058
Attachments: 91058.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

BOLs and weight tickets attached for EPIX 91058.
All will be invoiced at solid rate.
Overweight charges will apply for boxes listed below:
5077
5110
5003 12574
5161

Thank you for your business!

JANET DOAN
Scheduling Coordinator
Gulf Coast Area
GulfCoastScheduling@wm.com
jdoan@wm.com

Main: 337.583.3700
Direct: 337.583.3745
7170 John Brannon Road
Sulphur, LA 70665

168316 VRM1058-2A 766053

Bill of Lading (Page 1 of 2)

DOCUMENT # 91058-2A

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Ticket 61400

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9, III (BENZENE)	CM	24.38	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225077			
		RAIL CAR# EPIX91058			
		ERG# 171 H039		NA	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp	
Per:		Date: 2/23/2022	Per: Luis Castro	Date:

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 3/24/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91058-2A

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt Per:	Date: 3.24.22

EPA CA 2011

TICKET 48

ID 653375
GROSS 83620 lb RECALLED
01:19PM 03/24/2022

OUTBOUND TICKET 48

GROSS	83620 lb	RECALLED	83620 G
TARE	34480 lb		34480 T
NET	49140 lb		49140 N

NET 24.57 TON

01:34A 03/24/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 766053

WEIGHED BY _____

152488 Bill of Lading (Page 1 of 2) 091058-2B 746054

DOCUMENT # 91058-2B

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

Ticket 61401

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	24.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU222371			
		RAIL CAR# EPIX91058			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Per: [signature] Date: 2/23/2022

Carrier: CSX Railroad Corp
Per: Luis Castro Date: 2-23-22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials
Per: Belinda Spicer Date: 3/2/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91058-2B

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. LA0000147272 (800) 336-2169 Acknowledgement of Receipt	
Per: [signature]	Date: 3-24-20

79240 G
30260 T
48980 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1116134

WEIGHED BY _____

Bill of Lading (Page 1 of 2)

DOCUMENT # 91058-2C

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241 Ticket 61402	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	24.35	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225317			
		RAIL CAR# EPIX91058			
		ERG# 171 H039		NA	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry *to* Us usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/23/2022	Per: Luis Castro	Date:

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 3/24/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91058-2C

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: Vernon K Paul	Date: 3-24-22

79440 G
30800 T
48640 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 70605

WEIGHED BY Scott C

1053504 0091058-2D 764051

Bill of Lading (Page 1 of 2)

DOCUMENT # 91058-2D

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Ticket 61403

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225110			
		RAIL CAR# EPIX91058			
				NH	
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to Us usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/23/2022	Per: Luis Castro	Date:

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 3/24/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91058-2D

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. LA0000147272 (800) 336-2169 Acknowledgement of Receipt	
Per: Joseph Coulter	Date: 3/29/2022

TICKET 44

ID 653504
GROSS 80240 lb INBOUND
12:53PM 05/24/2022

OUTBOUND TICKET 44

GROSS 80240 lb RECALLED 80240 G
TARE 31660 lb 31660 T
NET 48580 lb 48580 N

DET 24.2% Dmg

05/24/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 76057

WEIGHED BY _____

1532004 0091058-2E 766062

Bill of Lading (Page 1 of 2)

DOCUMENT # 91058-2E

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/1 1241
Tickets 61404

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9.III (BENZENE)	CM	24.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225003			
		RAIL CAR# EPIX91058			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/23/2022	Per: Luis Castro	Date: 2/23/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 3/25/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91058-2E

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt Per: Joseph	Date: 3/25/2022

EPA ID: [illegible]

TICKET 29

ID 653504
GROSS 80800 lb INBOUND
09:16:01 03/25/2022

OUTBOUND TICKET 29

GROSS 80800 lb RECEIVED 80800 G
TARE 31660 lb 31660 T
NET 49140 lb 49140 N

QTY 24.57 UNT

11:11:00 03/25/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 74062

WEIGHED BY _____

16655 UU11058-DR 7600021

Bill of Lading (Page 1 of 2)

DOCUMENT # 91058-2F

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

Inc

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Tidab 16405	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	24.18	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225161			
		RAIL CAR# EPIX91058			
				NH	
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/23/2022	Per: Luis Castro	Date: 2/23/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172 201(a)(1) (iii) of Title 4 0. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 3/25/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91058-2F

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. LA0000147272 (800) 336-2169 Acknowledgement of Receipt	
Per: [signature]	Date: 3-25-22

EPUDAS161

TICKET 22

ID 653155
GROSS 83140 lb UNRELIABLE
03:23PM 03/25/2022

VOIDED TICKET 22

GROSS 83140 lb RECALLED 83140 G
TARE 34900 lb 34900 T
NET 48240 lb 48240 N

NET 24.12 TON

11:41AM 03/25/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 760601

WEIGHED BY _____

Patrick Dauria

From: Doan, Janet <JDoan@wm.com>
Sent: Monday, March 28, 2022 9:16 AM
To: Patrick Dauria
Cc: Rhyne, John
Subject: EPIX 91475
Attachments: 91475.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

APPROVED

Good morning Patrick,
Please see attached BOLs and weight tickets for EPIX 91475.
All will be invoiced at solid rate.
Overweight charges of $125.00/ea apply to the following boxes:
5058
5207
5180 5x125 = 625.
5236
5283

Thanks and Have a Great Day!

JANET DOAN
Scheduling Coordinator
Gulf Coast Area
GulfCoastScheduling@wm.com
jdoan@wm.com

Main: 337.583.3700
Direct: 337.583.3745
7170 John Brannon Road
Sulphur, LA 70665

Recycling is a good thing. Please recycle any printed emails.

152488 0091475-2A

Bill of Lading (Page 1 of 2)

765991

DOCUMENT # 91475-2A

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241	
Ticket 61910	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225304			
		RAIL CAR# EPIX91475			
				NA	
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/23/2022	Per: Luis Castro	Date:

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 3/23/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91475-2A

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company		
Acknowledgement of Receipt		
Per: Vernon K Paul	Date: 3-23-22	
Carrier 3: Chemical Waste Management, Inc.	LA0000147272	(800) 336-2169
Acknowledgement of Receipt		
Per: Vernon K Paul	Date: 3-27-22	

79600 G
30700 T
48900 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 105041

WEIGHED BY _____

165504 001147B-2B

Bill of Lading (Page 1 of 2)

7/26/2013

DOCUMENT # 91475-2B

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Tickets 161411

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.35	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225058			
		RAIL CAR# EPIX91475			
				NH	
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/23/2022	Per: Luis Castro	Date: 2/23/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Rushcamp Date: 3-24-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91475-2B

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: Joseph C	Date: 7/24/2022

EP1423008

TICKET 15

ID 653504
GROSS 80640 lb INBOUND
08:36AM 03/24/2022

OUTBOUND TICKET 15

GROSS 80640 lb RECALLED 80640 G
TARE 31840 lb 31840 T
NET 48800 lb 48800 N

NET 24.40 TON

09:53AM 03/24/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 11(0015

WEIGHED BY _____

UU11475-2C 7105984

Bill of Lading (Page 1 of 2)

DOCUMENT # 91475-2C

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241	
Ticket 61412	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	24.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225207			
		RAIL CAR# EPIX91475			
				NH	
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/23/2022	Per: Luis Castro	Date:

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 8/23/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91475-2C

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: Joseph Courville	Date: 3/23/2022

80080 G
31580 T
48500 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1105159

WEIGHED BY _____

1528515 0041475-2D

Bill of Lading (Page 1 of 2)

765990

DOCUMENT # 91475-2D

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Tdwb 61413

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.33	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225180			
		RAIL CAR# EPIX91475			
				NH	
		ERG# 171 H039			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/23/2022	Per: Luis Castro	Date:

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 3/23/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91475-2D

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt Per: Darrell Gray	Date: 3-23-22

(illegible)

[illegible] 21

[illegible]

[illegible] 21

[illegible] 83700 G
[illegible] 35040 T
[illegible] 48660 N

[illegible]

[illegible]

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1045990

WEIGHED BY _____

1653515 0091475-2E

Bill of Lading (Page 1 of 2)

7/6/2017

DOCUMENT # 91475-2E

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 161414	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.33	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225236			
		RAIL CAR# EPIX91477			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/23/2022	Per: Luis Castro	Date:

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 3/23/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91475-2E

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: Derrick Gray	Date: 5.24.22

EPA JJ3036

TICKET 18

ID 653375
GROSS 84060 lb INBOUND
09:09AM 03/24/2022

ORIGINAL TICKET 18

GROSS 84060 lb RECALLED 84060 G
TARE 35060 lb 35060 T
NET 49000 lb 49000 N

NET 24.50 TON

10:19AM 03/24/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 760107

WEIGHED BY _____

1625604 0041410-245 766007

Bill of Lading (Page 1 of 2)

DOCUMENT # 91475-2F

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Ticket 61415

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225283			
		RAIL CAR# EPIX914785			
		ERG# 171 H039		MH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/23/2022	Per: Luis Castro	Date:

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 3/23/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91475-2F

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272 (800) 336-2169
Per: Joseph	Date: 3/27/2022

80460 G
31560 T
48900 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 116100C7

WEIGHED BY _____

152488 009107S-2A 160221

Bill of Lading (Page 1 of 2)

DOCUMENT # 91075-2A

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241

Ticket 61385

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.10	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225198			
		RAIL CAR# EPIX91075			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/23/2022	Per: Luis Castro	Date: 2/23/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 4/1/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91075-2A

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Vance Paul	Date: 4-1-22	

79360 G
30460 T
48900 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 114021

WEIGHED BY _____

DRIVER Vernon Paul

CO-DRIVER

WASTE MANAGEMENT

CWM TRANSPORTATION - LAKE CHARLES
7170 JOHN BRANNON RD.
SULPHUR, LA 70663
(800) 336-2169

CWM ✓

TRANSPORTER

251275

SERVICE ORDER

PROFILE NUMBER 960843 LA	START TRIP LOCATION Sulphur LA	DATE 4-1-22	TIME
	END TRIP LOCATION Sulphur LA	DATE 4-1-22	TIME
DISPATCHED BY Barnes	TRUCK # 6534	TRAILER # 707784	TYPE CT
ORDER CALLED IN BY			
INSTRUCTIONS E/R			

ROLL OFF INSTRUCTIONS (✓)

WAIT TO LOAD	DEL. ONLY	SWAP	TURN	P/U ONLY	INTER-PLANT
			✓		

CODES:

1. DEPART FACILITY
2. ARRIVE JOB SITE
3. LEFT JOB SITE
4. ARRIVE TSD
5. DEPART TSD
6. ARRIVED FACILITY
7. BREAKDOWN START
8. BREAKDOWN END
9. OTHER (EXPLAIN)

DATE	TIME AM / PM	CODE	EXPLANATION
4-1-22	11:50	2	Philadelphia
	12:10	3	Philadelphia
	13:27		CWM
	15:15		

CONTACT

PHONE

LOAD SCHEDULED DATE

LOAD SCHEDULED TIME

SHIPPER NAME Philadelphia Energy

ADDRESS

CITY / STATE LACASSINE LA

P.O. #

HAZARD CLASS 9 UN / NA # 3077

PROPER SHIPPING NAME

	CONTAINER TYPE	CONTAINER NUMBER	SIZE
CONTAINER DROPPED AT JOB SITE			
CONTAINER PICKED UP AT JOB SITE			

LINER DELIVERED: Y N EQUIPMENT WASHOUT: Y N

BOX CONDITION: GOOD FAIR POOR

REMARKS: EPI 4-22-5198

DEMURRAGE EXPLANATIONS:

RECEIVER NAME: CWM

ADDRESS 7170 John Brannon Rd

CITY / STATE Sulphur LA

S.R. # 61385 TIME SLOT

RUN # DATE 4-1-22

SHIPPER SIGNATURE: [signature]
SHIPPER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

MANIFEST #: EPIX 91075

DOLLY DOWN EQUIPMENT / BOX #

DOLLY DOWN LOCATION

RECEIVER'S SIGNATURE: [signature]
RECEIVER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

Port 8665

166504 00411075-28 766224

Bill of Lading (Page 1 of 2)

DOCUMENT # 91075-28

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241 Ticket 613886	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.33	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225363			
		RAIL CAR# EPIX91075			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry *to* its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/23/2022	Per: Luis Castro	Date: 2/23/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 49 Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 4/4/20

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91075-2B

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/Stale/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/Stale/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt Per: Cody Duth	Date: 4-4-22

79500 G
31080 T
48420 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1106024

WEIGHED BY _____

DRIVER Cody Smith

CO-DRIVER _____

WASTE MANAGEMENT

CWM TRANSPORTATION - LAKE CHARLES
7170 JOHN BRANNON RD.
SULPHUR, LA 70663
(800) 336-2169

CWM

TRANSPORTER

258243

SERVICE ORDER

PROFILE NUMBER	START TRIP LOCATION	Sulphur, LA	DATE 4-4	TIME	
	END TRIP LOCATION	Sulphur, LA	DATE 4-4	TIME	
DISPATCHED BY Barry	TRUCK #	63504	TRAILER #	TYPE Rail	
ORDER CALLED IN BY					
INSTRUCTIONS pick up at rail empty bring it back					
CONTACT					
PHONE					
LOAD SCHEDULED DATE					
LOAD SCHEDULED TIME					
SHIPPER NAME Philadelphia energy					
ADDRESS					
CITY / STATE					
P.O. #					
HAZARD CLASS UN / NA #					
PROPER SHIPPING NAME					

ROLL OFF INSTRUCTIONS (✓)

WAIT TO LOAD	DEL. ONLY	SWAP	TURN	P/U ONLY	INTER-PLANT
			✓		

CODES:

1. DEPART FACILITY
2. ARRIVE JOB SITE
3. LEFT JOB SITE
4. ARRIVE TSD
5. DEPART TSD
6. ARRIVED FACILITY
7. BREAKDOWN START
8. BREAKDOWN END
9. OTHER (EXPLAIN)

DATE	TIME AM / PM	CODE	EXPLANATION
4-4	6:20	1	CWM
	7:10	2	rail
	7:27	3	rail
	8:20	4	TSD
	10:05	5	TSD
			rail

	CONTAINER TYPE	CONTAINER NUMBER	SIZE
CONTAINER DROPPED AT JOB SITE			
CONTAINER PICKED UP AT JOB SITE	rail		?

LINER DELIVERED: Y N EQUIPMENT WASHOUT: Y N

BOX CONDITION: GOOD (FAIR) POOR

REMARKS: Box # 5363

DEMURRAGE EXPLANATIONS:

RECEIVER NAME: Cwm

ADDRESS

CITY / STATE Sulphur LA

S.R. # 61386 TIME SLOT

RUN # DATE

SHIPPER SIGNATURE: x Terri Rogers
SHIPPER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

MANIFEST #: 91075-2B

DOLLY DOWN EQUIPMENT / BOX #

DOLLY DOWN LOCATION

RECEIVER'S SIGNATURE: _____
RECEIVER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

Port 6665

1554488 UNW175-DC 766193

Bill of Lading (Page 1 of 2)

DOCUMENT # 91075 -2C

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

Inc

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Tillet (6138)	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.30	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225137			
		RAIL CAR# EPIX91075			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/23/2022	Per: Luis Castro	Date: 2/23/20

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201 (a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 4/1/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91075 - 2C

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/Stale/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/Stale/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt Per:	Date: 4-1-22

78880 G
30440 T
48440 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1106193

WEIGHED BY _____

DRIVER Vernon Paul

CO-DRIVER

WASTE MANAGEMENT

CWM TRANSPORTATION - LAKE CHARLES
7170 JOHN BRANNON RD.
SULPHUR, LA 70663
(800) 336-2169

CWM F

TRANSPORTER

255054

SERVICE ORDER

PROFILE NUMBER 969843LA	START TRIP LOCATION Sulphur LA	DATE 4-1-22	TIME
	END TRIP LOCATION	DATE 4-1-22	TIME
DISPATCHED BY	TRUCK # 60534SC	TRAILER # 707780	TYPE CT
ORDER CALLED IN BY			
INSTRUCTIONS E/R			

CONTACT

PHONE

LOAD SCHEDULED DATE

LOAD SCHEDULED TIME

SHIPPER NAME Philadelphia Energy Cl

ADDRESS

CITY / STATE LACASSINE

P.O. #

HAZARD CLASS UN / NA #

PROPER SHIPPING NAME

	CONTAINER TYPE	CONTAINER NUMBER	SIZE
CONTAINER DROPPED AT JOB SITE			
CONTAINER PICKED UP AT JOB SITE		5137	30x

LINER DELIVERED: Y N EQUIPMENT WASHOUT: Y / N

BOX CONDITION: GOOD FAIR POOR

REMARKS: EPH4-22-5137

ROLL OFF INSTRUCTIONS (✓)

WAIT TO LOAD	DEL. ONLY	SWAP	TURN	P/U ONLY	INTER-PLANT

CODES:

1. DEPART FACILITY
2. ARRIVE JOB SITE
3. LEFT JOB SITE
4. ARRIVE TSD
5. DEPART TSD
6. ARRIVED FACILITY
7. BREAKDOWN START
8. BREAKDOWN END
9. OTHER (EXPLAIN)

DATE	TIME AM / PM	CODE	EXPLANATION
4-1-22	0745	2	Philadelphia
	0820	3	Philadelphia
	0900	4	CWM
	1030		

DEMURRAGE EXPLANATIONS:

RECEIVER NAME: CWM

ADDRESS

CITY / STATE Sulphur LA

S.R. # 61387 TIME SLOT

RUN # DATE 4-1-22

SHIPPER SIGNATURE: SHIPPER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

MANIFEST #: EPIX 91075

DOLLY DOWN EQUIPMENT / BOX #

DOLLY DOWN LOCATION

RECEIVER'S SIGNATURE: RECEIVER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

Port 8665

Bill of Lading (Page 1 of 2)

DOCUMENT # 91075-2D

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241 Ticket 61388	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.33	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225237			
		RAIL CAR# EPIX91075			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to Us usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/23/2022	Per: Luis Castro	Date: 2/23/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 4/1/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91075-2D

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: Joseph Conde	Date: 9/1/2022

TICKET 15

ID 453504
GROSS 81020 LB RECEIVED
04/01/2022

RECEIVED FROM 15

GROSS	81020 LB RECEIVED	81020 G
TARE	32160 LB	32160 T
NET	48860 LB	48860 N

NET 24.43 TON

04/01/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 766191

WEIGHED BY _____

DRIVER Joseph Courville

CO-DRIVER

WASTE MANAGEMENT

CWM TRANSPORTATION - LAKE CHARLES
7170 JOHN BRANNON RD.
SULPHUR, LA 70663
(800) 336-2169

CWM

TRANSPORTER

251399

SERVICE ORDER

PROFILE NUMBER 969843LA	START TRIP LOCATION Sulphur LA	DATE 4/11/2022	TIME
	END TRIP LOCATION Sulphur LA	DATE 4/11/2022	TIME
DISPATCHED BY Barry	TRUCK # 653505	TRAILER # 200889	TYPE Roll
ORDER CALLED IN BY			

INSTRUCTIONS	WAIT TO LOAD	DEL. ONLY	SWAP	TURN	P/U ONLY	INTER-PLANT
			✓			

CONTACT

PHONE

LOAD SCHEDULED DATE

LOAD SCHEDULED TIME

SHIPPER NAME phil energy

ADDRESS

CITY / STATE Lacassine LA

P.O. #

HAZARD CLASS UN / NA #

PROPER SHIPPING NAME

CODES:

1. DEPART FACILITY
2. ARRIVE JOB SITE
3. LEFT JOB SITE
4. ARRIVE TSD
5. DEPART TSD
6. ARRIVED FACILITY
7. BREAKDOWN START
8. BREAKDOWN END
9. OTHER (EXPLAIN)

DATE	TIME AM / PM	CODE	EXPLANATION
	6:25	1	CWM
	6:05	2	phil energy
	7:40	3	phil energy
	8:30	4	CWM TSD
	1000	5	CWM TSD

	CONTAINER TYPE	CONTAINER NUMBER	SIZE
CONTAINER DROPPED AT JOB SITE	OT	5293	30yd
CONTAINER PICKED UP AT JOB SITE	OT	5237	30yd

LINER DELIVERED: Y N EQUIPMENT WASHOUT: Y N

BOX CONDITION: GOOD FAIR POOR

DEMURRAGE EXPLANATIONS:

REMARKS: return 1 Ep I4-22-5293
plug 1 Ep I4-22-5237

RECEIVER NAME: CWM

ADDRESS 7110 John Brannon Rd

CITY / STATE Sulphur LA

S.R. # 61388 TIME SLOT

RUN # DATE 4/11/2022

SHIPPER SIGNATURE:
SHIPPER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

MANIFEST #: 91075-2D

DOLLY DOWN EQUIPMENT / BOX #

DOLLY DOWN LOCATION

RECEIVER'S SIGNATURE:
RECEIVER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

Port 8665

VRE004 0091075-2E M106220

Bill of Lading (Page 1 of 2)

DOCUMENT # 91075-2E

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241	
Ticket 61389	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.30	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225130			
		RAIL CAR# EPIX91075			
		ERG# 171 H039		NM	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/23/2022	Per: Luis Castro	Date: 2/23/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 4/1/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91075-2E

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC Inc
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272 (800) 336-2169
Per: Joseph Connelly	Date: 4/1/2022

EPA 22150

TICKET 43

ID 653504
GROSS 80120 lb INBOUND
01:26PM 04/01/2022

OUTBOUND TICKET 43

GROSS	80120 lb	RECALLED	80120 G
TARE	31840 lb		31840 T
NET	48280 lb		48280 N

NET 24.14 TON

01:45PM 04/01/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 110(2022)

WEIGHED BY _____

DRIVER Joseph Courville

CO-DRIVER

WASTE MANAGEMENT

CWM TRANSPORTATION - LAKE CHARLES
7170 JOHN BRANNON RD.
SULPHUR, LA 70663
(800) 336-2169

CWM

TRANSPORTER

251400

SERVICE ORDER

PROFILE NUMBER 969893LA	START TRIP LOCATION Sulphur LA	DATE 4/11/2022	TIME		
	END TRIP LOCATION Sulphur LA	DATE 4/11/2022	TIME		
DISPATCHED BY Barry	TRUCK # 653504	TRAILER # 200889	TYPE Rail		
ORDER CALLED IN BY					

INSTRUCTIONS	WAIT TO LOAD	DEL. ONLY	SWAP	TURN	P/U ONLY	INTER-PLANT
			✓			

ROLL OFF INSTRUCTIONS (✓)

CODES:

1. DEPART FACILITY
2. ARRIVE JOB SITE
3. LEFT JOB SITE
4. ARRIVE TSD
5. DEPART TSD
6. ARRIVED FACILITY
7. BREAKDOWN START
8. BREAKDOWN END
9. OTHER (EXPLAIN)

CONTACT

PHONE

	DATE	TIME AM PM	CODE	EXPLANATION
LOAD SCHEDULED DATE		9:55	1	CWM
LOAD SCHEDULED TIME		10:40	2	phil energy
SHIPPER NAME phil energy		11:50	3	phil energy
ADDRESS		13:20	4	CWM TSD
CITY / STATE Lacassine LA		14:45	5	CWM TSD
P.O. #				
HAZARD CLASS UN / NA #				
PROPER SHIPPING NAME				

	CONTAINER TYPE	CONTAINER NUMBER	SIZE
CONTAINER DROPPED AT JOB SITE	OIT	5237	30yd
CONTAINER PICKED UP AT JOB SITE	OIT	5130	30yd

DEMURRAGE EXPLANATIONS:

LINER DELIVERED: Y (N) EQUIPMENT WASHOUT: Y (N)

BOX CONDITION: GOOD FAIR POOR

REMARKS: return ICP In-22-5237
phil ICP In-22-5130

RECEIVER NAME: CWM

ADDRESS 7170 John Brannon Rd

CITY / STATE Sulphur LA

S.R. # 61384

RUN #

TIME SLOT

DATE 4/11/2022

SHIPPER SIGNATURE: CWM

SHIPPER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

MANIFEST #: 91075-2EP

DOLLY DOWN EQUIPMENT / BOX #

DOLLY DOWN LOCATION

RECEIVER'S SIGNATURE:

RECEIVER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

Port 8665

W538915 0091075-2F

Bill of Lading (Page 1 of 2)

X662141

DOCUMENT # 91075-2F

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 61390	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.35	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225148			
		RAIL CAR# EPIX91075			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:	[signature]	Date: 2/23/2022	Per: Luis Castro		Date: 2-23-22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc		Certification of receipt of materials	
Per: Carrie Dubodleaux	Date:	2-23-22 4/1/22	

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91075-2F

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272 (800) 336-2169
Per:	Date: 4.1.22

EPH 033118
TICKET No

ID 455875
GROSS 83600 lb MANUAL
11:20AM 04/01/2022

VOIDED TICKET

GROSS 83600 lb RECORDED 83600 G
TARE 34440 lb 34440 T
NET 49160 lb 49160 N

NET 24.58 TON

01:30PM 04/01/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 760241

WEIGHED BY _____

DRIVER Derrick Gary
CO-DRIVER Dante Tanner

WASTE MANAGEMENT

CWM TRANSPORTATION - LAKE CHARLES
7170 JOHN BRANNON RD.
SULPHUR, LA 70663
(800) 336-2169

CWM
TRANSPORTER

250063

SERVICE ORDER

PROFILE NUMBER 969843LA	START TRIP LOCATION Sulphur, LA	DATE 4-1-22	TIME	
	END TRIP LOCATION	DATE	TIME	
DISPATCHED BY Barry	TRUCK # 653375	TRAILER #	TYPE Rail	
ORDER CALLED IN BY				

INSTRUCTIONS: S/O

CONTACT

PHONE

LOAD SCHEDULED DATE

LOAD SCHEDULED TIME

SHIPPER NAME Phil Energy

ADDRESS

CITY / STATE Iowa, LA

P.O. #

HAZARD CLASS UN / NA #

PROPER SHIPPING NAME

	CONTAINER TYPE	CONTAINER NUMBER	SIZE
CONTAINER DROPPED AT JOB SITE	Rail	5346	30
CONTAINER PICKED UP AT JOB SITE		5148	

LINER DELIVERED: Y N EQUIPMENT WASHOUT: Y N

BOX CONDITION: GOOD FAIR POOR

REMARKS:

ROLL OFF INSTRUCTIONS (✓)

WAIT TO LOAD	DEL. ONLY	SWAP	TURN	P/U ONLY	INTER-PLANT
		✓			

CODES:

1. DEPART FACILITY
2. ARRIVE JOB SITE
3. LEFT JOB SITE
4. ARRIVE TSD
5. DEPART TSD
6. ARRIVED FACILITY
7. BREAKDOWN START
8. BREAKDOWN END
9. OTHER (EXPLAIN)

DATE	TIME AM / PM	CODE	EXPLANATION
	8:41	1	CWM
	9:32	2	Rail
	10:10	3	Rail
	1118	4	CWM
	1330	5	CWM

DEMURRAGE EXPLANATIONS:

RECEIVER NAME: CWM
ADDRESS 7170 JBR
CITY / STATE Sulphur, LA
S.R. # 61390
RUN #
TIME SLOT
DATE

SHIPPER SIGNATURE: Tasha Reyes
SHIPPER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

MANIFEST #:
DOLLY DOWN EQUIPMENT / BOX #
DOLLY DOWN LOCATION

RECEIVER'S SIGNATURE: _____
RECEIVER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

Port 8665

1523488 091074-3A 766155

Bill of Lading (Page 1 of 2)

DOCUMENT # 91074-3A

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 61692	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	19.68	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225273			
		RAIL CAR# EPIX91074			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/28/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc — Certification of receipt of materials

Per: Belinda Spicer Date: 3/30/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91074-3A

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt Per: [signature]	Date: 3-30-22

70160 G
30760 T
39400 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 700153

WEIGHED BY _____

163504 00910743B

Bill of Lading (Page 1 of 2)

766157

DOCUMENT # 91074-3B

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Ticket 611694

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	22.10	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225150			
		RAIL CAR# EPIX91074			
		ERG# 171 H039		NH	

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/28/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: ~~Chemical Waste~~ Management, Inc — Certification of receipt of materials

Per: Belinda Spicer Date: 3/30/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91074-3B

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. LA0000147272 (800) 336-2169 Acknowledgement of Receipt	
Per: Joseph Cotruvo	Date: 7/30/2021

75000 G
31220 T
43780 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 744152

WEIGHED BY _____

1663815 DD91074-3C

760135

Bill of Lading (Page 1 of 2)

DOCUMENT # 91074-3C

TO

Consignee: CHEMICAL WASTE MANAGEMENT Inc INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

Tabb 61695

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	24.20	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225155			
		RAIL CAR# EPIX91074			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/28/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 3/30/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91074-3C

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. LA0000147272 (800) 336-2169 Acknowledgement of Receipt	
Per:	Date: 3-29-22

TICKET 4

ID 653375
GROSS 83620 lbINBOUND
07:08AM 03/30/2022
OUTBOUND TICKET 4

[illegible]	83620 lb	RECALLED	83620 G
[illegible]	34720 lb		34720 T
[illegible]	48900 lb		48900 N

[illegible] 24.45 TON

[illegible] 03/30/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1160135

WEIGHED BY _____

Bill of Lading (Page 1 of 2)

DOCUMENT # 91074-3D

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 61696	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.03	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225342			
		RAIL CAR# EPIX91074			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/28/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 3/30/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91074-3D

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Joseph Conde	Date: 3/30/2022	

77100 G
31380 T
45720 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 76036

WEIGHED BY _____

058315 00911074-3E

7061419

Bill of Lading (Page 1 of 2)

DOCUMENT # 91074-3E

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 61697	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	23.70	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225191			
		RAIL CAR# EPIX91074			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/28/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 3/30/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91074-3E

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272 (800) 336-2169
Per:	Date: 3-30-22

82260 G
34760 T
47500 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 110 6 1219

WEIGHED BY _____

166188 CX411774-5A 66138

Bill of Lading (Page 1 of 2)

DOCUMENT # 91074-3F

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 66199	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	21.88	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225082			
		RAIL CAR# EPIX91074			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/28/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials	
Per: Janet Dean	Date:	3/30/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91074-3F

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt Per:	Date: 3-30-22

EMU # 25100

[illegible]

[illegible]

[illegible]	[illegible]	73560 G
[illegible]	[illegible]	30460 T
[illegible]	[illegible]	43100 N

[illegible]

[illegible]

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 7402138

WEIGHED BY _____

1053810 UU41434-4A 766110

Bill of Lading (Page 1 of 2)

DOCUMENT # 91434-4A

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241 Ticket 61703	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	19.08	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225292			
		RAIL CAR# EPIX91434			
		ERG# 171 · H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry *to* its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/28/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, whan shipping hazardous materials, the shipper's certification stetement prescribed in section 172 204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 3/29/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91434-4A

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: Derrick Gary	Date: 3-29-22

72120 G
34040 T
38080 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 76210

WEIGHED BY _____

165188 0091434-2B 7066125

Bill of Lading (Page 1 of 2)

DOCUMENT # 91434-4B

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Tidd 6/705

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	19.50	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225299			
		RAIL CAR# EPIX91434			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to Us usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/28/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 3/29/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91434-4B

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: [signature]	Date: 3-29-22

69380 G
30620 T
38760 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 114025

WEIGHED BY _____

W635504 0091434-4C 100104

Bill of Lading (Page 1 of 2)

DOCUMENT # 91434-4C

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

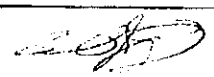
FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Tidus 01706

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	21.18	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225068			
		RAIL CAR# EPIX91434			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:		Date: 2/28/2022	Per: Luis Castro	Date: 3/1/22	

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 3/28/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91434-4C

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272 (800) 336-2169
Per: Joseph Coiles	Date: 7/28/2022

73660 G
31740 T
41920 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 7606104

WEIGHED BY _____

1653488 UU91434-4D 7/20/07

Bill of Lading (Page 1 of 2)

DOCUMENT # 91434-4D

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241	
Ticket 61107	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	21.35	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225235			
		RAIL CAR# EPIX91434			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/28/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification stetement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 3/29/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91434-4D

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: [signature]	Date: 3-28-22

72960 G
30760 T
42200 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 140157

WEIGHED BY _____

1535004 00914344E 7/6/29

Bill of Lading (Page 1 of 2)

DOCUMENT # 91434-4E

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241 Ticket 41708	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	18.20	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU226073			
		RAIL CAR# EPIX91434			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/28/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 3/29/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91434-4E

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. LA0000147272 (800) 336-2169 Acknowledgement of Receipt	
Per: Joseph C	Date: 7/29/2022

70860 G
31520 T
39340 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1010189

WEIGHED BY _____

165504 0091434-4F 746108

Bill of Lading (Page 1 of 2)

DOCUMENT # 91434-4F

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 601709	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	13.95	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225361			
		RAIL CAR# EPIX91434			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/28/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 3/29/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91434-4F

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: Joseph Connelle	Date: 3/29/2022

70560 G
31160 T
39400 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 706108

WEIGHED BY _____

1553815 0011104444 766170

Bill of Lading (Page 1 of 2)

DOCUMENT # 91060-4A

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241	
Ticket 41912	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	19.93	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225369			
		RAIL CAR# EPIX91060			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/28/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification stetement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 3/31/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91060-4A

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272 (800) 336-2169
Per:	Date: 3-31-22

74440 G
34880 T
39560 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 74010

WEIGHED BY _____

Bill of Lading (Page 1 of 2)

DOCUMENT # 91060-4B

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	20.48	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225293			
		RAIL CAR# EPIX91060			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/28/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 3/31/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91060-4B

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC DNC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272 (800) 336-2169
Per: Joseph Comello	Date: 9/11/2022

72220 G
31320 T
40900 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 102152

WEIGHED BY _____

1053004 0011000 HC 7661677

Bill of Lading (Page 1 of 2)

DOCUMENT # 91060-4C

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT Inc INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 661714	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	20.68	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225038			
		RAIL CAR# EPIX91060			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/28/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Rolinda Spicer	Date: 3/31/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91060-4C

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272 (800) 336-2169
Per: Joseph Colonello	Date: 4/1/2022

72540 G
31200 T
41340 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 100107

WEIGHED BY _____

1528188 VCU1060-4D 7666168

Bill of Lading (Page 1 of 2)

DOCUMENT # 91060-4D

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241	
Ticket 66115	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	20.50	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225359			
		RAIL CAR# EPIX91060			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/28/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 3/31/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91060-4D

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT, INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Vern K Paul	Date: 3-31-20	

71260 G
30340 T
40920 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 7696168

WEIGHED BY _____

Bill of Lading (Page 1 of 2)

DOCUMENT # 91060-4E

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT, INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	20.30	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225346			
		RAIL CAR# EPIX91060			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/28/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 4/1/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91060-4E

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Daniel Cox	Date: 8-31-22	

75320 G
34340 T
40980 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 100187

WEIGHED BY _____

153188 D0911060-4F

Bill of Lading (Page 1 of 2)

7/26/85

DOCUMENT # 91060-4F

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241
Title 6/1/17

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	19.60	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225037			
		RAIL CAR# EPIX91060			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 2/28/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 3/31/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91060-4F

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: [signature]	Date: 3-31-22

69760 G
30760 T
39000 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 760185

WEIGHED BY _____

Patrick Dauria

From: Doan, Janet <JDoan@wm.com>
Sent: Tuesday, April 26, 2022 5:06 PM
To: Patrick Dauria
Cc: Rhyne, John
Subject: EPIX 91447-3
Attachments: 91447-3.pdf

Good afternoon Patrick,
BOLs and weight tickets attached for 91447-3.

Loads listed below were solidified
91447-3A
91447-3B
91447-3E
91447-3F

Thanks,

JANET DOAN
Scheduling Coordinator
Gulf Coast Area
GulfCoastScheduling@wm.com
jdoan@wm.com

Main: 337.583.3700
Direct: 337.583.3745
7170 John Brannon Road
Sulphur, LA 70665

0091447-3A

766563

Bill of Lading (Page 1 of 2)

DOCUMENT # 91447-3A

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241
Ticket 62014

SHIPPER'S INSTRUCTIONS

41,260

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	20.63	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225343			
		RAIL CAR# EPIX91[illegible]			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 03/01/2022	Per: Luis Castro	Date:

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Terrie Thibodeaux	Date: 4-19-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91447-3A

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049701 090
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: [illegible]	Date: 4-18-22

4-19-22

E 7161225 15

TICKET 16

ID 65320A
GROSS 70460 10/10/0000
11:38 10/19/2022

[illegible]

GROSS	[illegible] LB SCALED	70460 G
TARE	35360 LB	35360 T
NET	35100 LB	35100 N

[illegible]

[illegible] On 10/19/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 700503

WEIGHED BY _____

153168 0011447-3B

Bill of Lading (Page 1 of 2)

766569

DOCUMENT # 91447-3B

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 090
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1624

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241

Ticket 6015

SHIPPER'S INSTRUCTIONS

42,500

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	21.25	T
		PROFILE: 069843LA			
		IM CONTAINER# EPIU225315			
		RAIL CAR# EPIX 91447			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:		Date: 03/01/2022	Per: Luis Castro		Date: 3-1-22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 0, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Chisholm Date: 9-20-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91447-3B

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049701 098
City/State/Zip: PHILADELPHIA, PA 19146
Phone: (440) 220-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt Per:	Date: 4-19-22

EPA 1125315

TICKET 3

[illegible] 653168
GROSS 69420 lb INBOUND
07:07AM 04 20 2022

[illegible] TARE

GROSS	69420 lb RECEIVED	69420 G
TARE	34740 lb	34740 T
NET	34680 lb	34680 N

[illegible]

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

4

RECEIVING TICKET # 760569

WEIGHED BY _____

0091447-3C

1628613

Bill of Lading (Page 1 of 2)

766492

DOCUMENT # 91447-3C

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049701 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241	
Ticket 62016	

40,160

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	20.08	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225231			
		RAIL CAR# EPIX 91447			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 03/01/2022	Per: Luis Castro	Date: 4-14-22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 49, Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Carrie Chadeaux	Date: 4-14-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91447-3C

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 220-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272 (800) 336-2169
Per:	Date: 4.14.22

TICKET 25

ID 653375
GROSS 73940 lb (RECEIVED)
02:05PM 04/14/2022

WEIGHING TICKET 25

GROSS	73940 lb	RECEIVED	73940 G
TARE	33640 lb		33640 T
NET	40300 lb		40300 N

QTY 20.15 Ton

TICKET 04/14/22

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1110492

WEIGHED BY _____

0053804

00114471-3D

766522

Bill of Lading (Page 1 of 2)

DOCUMENT # 91447-3D

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 220-1524

ADDITIONAL INFORMATION
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Ticket 42017

SHIPPER'S INSTRUCTIONS

42,500

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	21.25	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU226246			
		RAIL CAR# EPIX 91447			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 03/01/2022	Per: Luis Castro	Date: 3-1-22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9, Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Carrie Dumbacher	Date: 2-14-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91447-3D

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 096
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: [signature]	Date: 4/19/2022

TICKET 45

GROSS	78120 lb PREVIOUS	78120 G
TARE	35860 lb	35860 T
NET	42260 lb	42260 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 76055

WEIGHED BY

CXX11441-3E

053204

Bill of Lading (Page 1 of 2)

766541

DOCUMENT # 91447-3E

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4(a) 1241	
Ticket 62018	

40,500

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	20.25	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225120			
		RAIL CAR# EPIX 91447			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 03/01/2022	Per: Luis Castro	Date:

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 B. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Carrie Dubordeaux	Date: 4-18-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91447-3E

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 226-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. LA0000147272 (800) 336-2169 Acknowledgement of Receipt	
Per:	Date: 4-18-22

EPIU

TICKET 27

ID 653204
GROSS 76900 lb INBOUND
09:56AM 04/19/2022
OUTBOUND TICKET 27

GROSS	76900 lb	REGULED	76900 G
TARE	36100 lb		36100 T
NET	40800 lb		40800 N

[illegible] 20.40 TON

12:51PM 04/19/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 760511

WEIGHED BY _____

165816

UO41447-3F

766520

Bill of Lading (Page 1 of 2)

DOCUMENT # 91447-3F

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241	
Ticket 62019	

40,200

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9.III (BENZENE)	CM	20.10	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225189			
		RAIL CAR# EPIX 91447			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 03/01/2022	Per: Luis Castro	Date: 3-1-22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Carrie Chaboderaux Date: 4-20-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91447-3IF

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70605
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company		
Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc.	LA0000147272	(800) 336-2169
Acknowledgement of Receipt		
Per: Joseph Courville	Date: 4/18/2022	
Renouk Pan	4-19-22	

EPA 225189

TICKET 5

ID 653375
GROSS 65700 lb OUTBOUND
07:14AM 04/20/2022

OUTBOUND TICKET 5

[illegible]	65700 lb RECALLED	65700 G
[illegible]	[illegible] lb	33460 T
[illegible]	[illegible] lb	32240 N

[illegible]

[illegible] [illegible]

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 700570

WEIGHED BY _____

00910069-4A

1652304

7664053

Bill of Lading (Page 1 of 2)

DOCUMENT # 91069-4A

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 62026	

38,360

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	19.18	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225308			
		RAIL CAR# EPIX 91069			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 03/01/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9, Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicuk	Date: 4/12/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91069-4A

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LAO000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: Vernon Paul	Date: 4-12-22

EPA ID 533508

TICKET 51

ID 653204
GROSS 72980 lb INBOUND
19:49PM 04/12/2022

OUTBOUND TICKET 51

GROSS 72980 lb RECALLED 72980 G
TARE 35320 lb 35320 T
NET 37660 lb 37660 N

NET 18.83 TON

OUT 14PM 04/15/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 76666(15)

WEIGHED BY _____

052316 UU91069-4B 766457

Bill of Lading (Page 1 of 2)

DOCUMENT # 91069-4B

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 62027	

40,760

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9.III (BENZENE)	CM	20.38	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225145			
		RAIL CAR# EPIX 91069			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:	[signature]	Date: 03/01/2022	Per: Luis Castro	Date: 03-01-22 ~~4-12-22~~	

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Ken Clendenning	Date: 4-12-22

766457

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91069-4B

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per:	Date: 4.12.22

TICKET 54

ID TID
GROSS 74760 lb INBOUND
[illegible] 04/12/2022 54

GROSS	74760 lb	RECALLED	74760 G
TARE	33980 lb		33980 T
NET	40780 lb		40780 N

[illegible] 20.39 HH

[illegible] 04/12/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 16457

WEIGHED BY _____

1153156 00911069-4C 7666430

Bill of Lading (Page 1 of 2)

DOCUMENT # 91069-4C

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19146
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Tabet 62028	

39,460

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9.III (BENZENE)	CM	19.73	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225271			
		RAIL CAR# EPIX 91069			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 03/01/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 4/12/23

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91069-4C

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: Joseph Connelly	Date: 4/12/2022

EPA 225 11

TICKET 22

ID 653155
GROSS 74800 lb INBOUND
08:39AM 04/12/2022

INBOUND TICKET 22

GROSS	74800 lb RECALLED	74800 G
TARE	35500 lb	35500 T
NET	39300 lb	39300 N

NET 19.65 TON

08:59AM 04/12/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 760130

WEIGHED BY _____

166204 166428

Bill of Lading (Page 1 of 2)

DOCUMENT # 91069-4D

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/at 1241	
Ticket 62029	

38,960

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	19.48	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225358			
		RAIL CAR# EPIX 91069			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:	[signature]	Date: 03/01/2022	Per: Luis Castro	Date: 3/1/22	

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 4/12/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91069-4D

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. LA0000147272 (800) 336-2169 Acknowledgement of Receipt	
Per: [signature]	Date: 4-12-22

EPA(-02331

TICKET 17

ID: 653204
GROSS 74000 lb INBOUND
08:14:00 04/12/2022

OUTBOUND TICKET 17

GROSS	74000 lb RECALLED	74000 G
TARE	35120 lb	35120 T
NET	38880 lb	38880 N

QTY 19.44 TON

04/12/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 740428

WEIGHED BY _____

0041069-4E 7166455

166365

Bill of Lading (Page 1 of 2)

DOCUMENT # 91069-4E

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

Inc

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241	
Ticket 62030	

40,660

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	20.33	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225328			
		RAIL CAR# EPIX 91069			
		ERG# 171 H039 DH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 03/01/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 49 Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 4/12/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91069-4E

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1624

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: Joseph Cornelle	Date: 4/12/2022

TICKET 52

ID 653155.
GROSS 75780 lb INBOUND
12:55PM 04/12/2022

OUTBOUND TICKET 52

GROSS	75780 lb	RECALLED	75780 G
TARE	35260 lb		35260 T
NET	40520 lb		40520 N

NET 20.26 TON

04/12/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 711645

WEIGHED BY _____

Bill of Lading (Page 1 of 2)

DOCUMENT # 91069-4F

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4(a) 1241	
Ticket 62031	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III (BENZENE)	CM	19.63	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225391			
		RAIL CAR# EPIX 91069			
		ERG# 171 H039 NJH			

39,260

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:	[signature]	Date: 03/01/2022	Per: Luis Castro	Date: 3/1/22	

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9, Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 4/12/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91069-4F

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per:	Date: 4-12-22

E1411222311

TICKET 27

TO 653375
GROSS 73180 OUTBOUND
09:07AM 04/12/2022

OUTBOUND TICKET 27

GROSS	73180 lb	RECALLED	73180 G
TARE	34080 lb		34080 T
NET	39100 lb		39100 N

S 1 19.55 DM

[illegible] 04/12/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 7604434

WEIGHED BY _____

0533515 CW11484-4A

766479

Bill of Lading (Page 1 of 2)

DOCUMENT # 91484-4A

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC TRC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 620016	

38,800

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	19.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225281			
		RAIL CAR# EPIX91484			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 03/01/2022	Per: Luis Castro	Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Duran	Date: 4/13/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91484-4A

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT, INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per:	Date: 4-13-22	

EPA 22201

TICKET 38

TO 653375
GROSS 72560 lb INBOUND
01:11PM 04/13/2022

OUTBOUND TICKET 38

GROSS	72560 lb	RECALLED	72560 G
TARE	34080 lb		34080 T
NET	38480 lb		38480 N

NET 19.24 TON

02:18PM 04/13/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 76647

WEIGHED BY _____

CU41484-4B

158168

Bill of Lading (Page 1 of 2)

766491

DOCUMENT # 91484-4B

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Tribute 62001

SHIPPER'S INSTRUCTIONS

41,100

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	20.55	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225345			
		RAIL CAR# EPIX91484			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 03/01/2022	Per: Luis Castro	Date: 4-14-22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Carrie Dunbodeaux	Date: 4-14-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91484-4B

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. LA0000147272 (800) 336-2169 Acknowledgement of Receipt	
Per: Allen Vincent	Date: 4-14-22

EPI 0015 345

TICKET 20

To 653168
GROSS 75780 lb INBOUND
04/14/2022

L11160 net

75780
34620
41160

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 7666491

WEIGHED BY _____

OKX11484-4C

458168

Bill of Lading (Page 1 of 2)

766471

DOCUMENT # 91484-4C

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	

41,500

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	20.75	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225084			
		RAIL CAR# EPIX91484			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:		Date: 03/01/2022	Per: Luis Castro	Date: 3/1/22	

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 49 Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc — Certification of receipt of materials

Per: Allen Vincent Date: 4.13.22

Belinda Spicer 4/13/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91484-4C

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Allen Vincent	Date: 4.13.22	

TICKET 25

ID 653168
GROSS 76280 lbINBOUND
10:1eAM 04/13/2022

OUTBOUND TICKET 25

GROSS	76280 lb RECALLED	76280 G
TARE	35340 lb	35340 T
NET	40940 lb	40940 N

01:17PM 04/13/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 766471

WEIGHED BY _____

CX914484-4N

1533515

76664664

Bill of Lading (Page 1 of 2)

DOCUMENT # 91484-4D

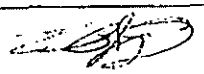
TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT Inc INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 62609	

39,100

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9, III (BENZENE)	CM	19.55	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225111			
		RAIL CAR# EPIX91484			
		ERG# 171 H039 NA			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:		Date: 03/01/2022	Per: Luis Castro		Date: 3/1/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 49 Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 4/13/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91484-4D

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1624

Carrier 2: BNSF Railway Company		
Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc.	LA0000147272	(800) 336-2169
Acknowledgement of Receipt		
Per:	Date: 4.13.22	

CHI 4 02711

TICKET 11

ID 653375
GROSS 73000 LbINBOUND
08:29AM 04/13/2022

OUTBOUND TICKET 11

GROSS	73000 lb SCALED	73000 G
TARE	33940 lb	33940 T
NET	39060 lb	39060 N

NET 19.53 TON

09:50AM 04/13/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 76a4404

WEIGHED BY _____

0091484-4E

1653204

Bill of Lading (Page 1 of 2)

7666490

DOCUMENT # 91484-4E

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Ticket 62210

SHIPPER'S INSTRUCTIONS

41,400

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	20.70	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225286			
		RAIL CAR# EPIX91484			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 03/01/2022	Per: Luis Castro	Date: 3-1-22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 49 Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Carrie Rembodeaux	Date: 4-14-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91484-4E

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272 (800) 336-2169
Per: Joseph Connelly	Date: 4/14/2022

C PIU

TICKET 19

Ib 653204
GROSS 76860 lbINBOUND
08:28AM 04/14/2022

OUTBOUND TICKET 19

GROSS	76860 lb	RECALLED	76860 G
TARE	35560 lb		35560 T
NET	41300 lb		41300 N

OPT 20.06 TON

08:59AM 04/14/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 766490

WEIGHED BY _____

DOC1484-4F

7664TD

1653304

Bill of Lading (Page 1 of 2)

DOCUMENT # 91484-4F

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

Inc

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 62014	

40,860

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	20.43	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225348			
		RAIL CAR# EPIX91484			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:	[signature]	Date: 03/01/2022	Per: Luis Castro	Date: 3/1/22	

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 4/13/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91484-4F

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1624

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: Joseph Cornelio	Date: 4/13/2022	

EPIU022540

TICKET 24

ID 653204
GROSS 75780 lbINBOUND
10:15AM 04/13/2022

OUTBOUND TICKET 24

GROSS 75780 lb RECALLED 75780 G
TARE 35540 lb 35540 T
NET 40240 lb 40240 N

Rcl 20.12 TON

01:15PM 04/13/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 766470

WEIGHED BY _____

166155 DC#1405-4A 1044UU 766404

Bill of Lading (Page 1 of 2)

DOCUMENT # 91405-4A

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 62118	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.35	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225384			
		RAIL CAR# EPIX91405			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:	[signature]	Date: 3/7/22	Per: Luis Castro		Date: 3/8/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 4/11/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91405-4A

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company	
Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: Joseph Connelly	Date: 4/11/2022

CHW220207

TICKET 00

lb 653155
46055 84260 lbINBOUND
09:37AM 04/11/2022

INBOUND TICKET 00

Gross	84260 lb RECALLED	84260 G
Tare	35960 lb	35960 T
Net	48300 lb	48300 N

NET 24.15 TON

10:40AM 04/11/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1064012

WEIGHED BY _____

DRIVER Joseph Courville

CO-DRIVER _____

WASTE MANAGEMENT

CWM TRANSPORTATION - LAKE CHARLES
7170 JOHN BRANNON RD.
SULPHUR, LA 70663
(800) 336-2169

CWM

TRANSPORTER

260419

SERVICE ORDER

PROFILE NUMBER 969943LA	START TRIP LOCATION Sulphur LA	DATE 4/11/2022	TIME
	END TRIP LOCATION Sulphur LA	DATE 4/11/2022	TIME
DISPATCHED BY Barry	TRUCK # 653155	TRAILER # 200884	TYPE Rail
ORDER CALLED IN BY			
INSTRUCTIONS			

ROLL OFF INSTRUCTIONS (✓)

WAIT TO LOAD	DEL. ONLY	SWAP	TURN	P/U ONLY	INTER-PLANT
				✓	

CODES:

1. DEPART FACILITY
2. ARRIVE JOB SITE
3. LEFT JOB SITE
4. ARRIVE TSD
5. DEPART TSD
6. ARRIVED FACILITY
7. BREAKDOWN START
8. BREAKDOWN END
9. OTHER (EXPLAIN)

CONTACT

PHONE

LOAD SCHEDULED DATE

LOAD SCHEDULED TIME

DATE	TIME AM / PM	CODE	EXPLANATION
	7:23	1	CWM
	8:15	2	phi energy
	8:30	3	phi energy
	9:28	4	CWM TSD
	1045	5	CWM TSD

SHIPPER NAME phi energy

ADDRESS

CITY / STATE Lacassine LA

P.O. #

HAZARD CLASS UN / NA #

PROPER SHIPPING NAME

	CONTAINER TYPE	CONTAINER NUMBER	SIZE
CONTAINER DROPPED AT JOB SITE			
CONTAINER PICKED UP AT JOB SITE	ORT	5389	30yd

DEMURRAGE EXPLANATIONS:

LINER DELIVERED: Y N EQUIPMENT WASHOUT: Y N

BOX CONDITION: GOOD FAIR POOR

REMARKS: phi / EPIC - 02-5389

RECEIVER NAME: CWM

ADDRESS 7170 John Brannon Rd

CITY / STATE Sulphur LA

S.R. # 62118 TIME SLOT

RUN # DATE 4/11/2022

SHIPPER SIGNATURE: Zach Rayes

SHIPPER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

MANIFEST #:

DOLLY DOWN EQUIPMENT / BOX #

DOLLY DOWN LOCATION

RECEIVER'S SIGNATURE: _____

RECEIVER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

Port 8685

UN1140-4B & 7606416

165155

Bill of Lading (Page 1 of 2)

DOCUMENT # 91405-4B

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNK AVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241	
Ticket 62119	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	21.03	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225179			
		RAIL CAR# EPIX91405			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to Us usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 3/7/22	Per: Luis Castro	Date: 3/8/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spuan	Date: 4/11/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91405-4B

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC Inc	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc.	LA0000147272	(800) 336-2169
Acknowledgement of Receipt		
Per: Joseph C	Date: 4/11/2022	

77560 G
35900 T
41660 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 71-04116

WEIGHED BY _____

DRIVER Joseph Cowville

CO-DRIVER

WM

WASTE MANAGEMENT

CWM TRANSPORTATION - LAKE CHARLES
7170 JOHN BRANNON RD.
SULPHUR, LA 70663
(800) 336-2169

CWM

TRANSPORTER

260420

SERVICE ORDER

PROFILE NUMBER 969843LA	START TRIP LOCATION Sulphur LA	DATE 4/11/2022	TIME
	END TRIP LOCATION Sulphur LA	DATE 4/11/2022	TIME
DISPATCHED BY Barry	TRUCK # 653155	TRAILER # 200884	TYPE Roll
ORDER CALLED IN BY			
INSTRUCTIONS			
CONTACT			
PHONE			
LOAD SCHEDULED DATE			
LOAD SCHEDULED TIME			
SHIPPER NAME phil energy			
ADDRESS			
CITY / STATE Lacassine LA			
P.O. #			
HAZARD CLASS	UN / NA #		
PROPER SHIPPING NAME			

ROLL OFF INSTRUCTIONS (✓)

WAIT TO LOAD	DEL. ONLY	SWAP	TURN	P/U ONLY	INTER-PLANT
		✓			

CODES:

1. DEPART FACILITY
2. ARRIVE JOB SITE
3. LEFT JOB SITE
4. ARRIVE TSD
5. DEPART TSD
6. ARRIVED FACILITY
7. BREAKOOWN START
8. BREAKOOWN END
9. OTHER (EXPLAIN)

DATE	TIME AM/PM	CODE	EXPLANATION
	10:47	1	CWM
	11:30	2	phil energy
	11:47	3	phil energy
	12:40	4	CWM TSD
	14:15	5	CWM TSD

	CONTAINER TYPE	CONTAINER NUMBER	SIZE
CONTAINER DROPPED AT JOB SITE	OIT	5384	30yd
CONTAINER PICKED UP AT JOB SITE	OIT	5179	30yd

LINER DELIVERED: Y N EQUIPMENT WASHOUT: Y N

BOX CONDITION: GOOD FAIR POOR

DEMURRAGE EXPLANATIONS:

REMARKS: return Epic-22-5384
phil Epic-22-5179

RECEIVER NAME: CWM		**SHIPPER SIGNATURE:**	SHIPPER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME
ADDRESS 7170 John Brannon Rd		**MANIFEST #:** 91405-4B	
CITY / STATE Sulphur LA		DOLLY DOWN EQUIPMENT / BOX #	
S.R. # 62119	TIME SLOT	DOLLY DOWN LOCATION	
RUN #	DATE 4/11/2022		

RECEIVER'S SIGNATURE: RECEIVER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

Port 8665

W5885 0041405-4C 766400

Bill of Lading (Page 1 of 2)

DOCUMENT # 91405-4C

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

Inc

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Tickets 62120	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	24.40	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225121			
		RAIL CAR# EPIX91405			
		ERG# 171 H039 NM			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 3/7/22	Per: Luis Castro	Date: 3/8/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific excepiton from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 4/11/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91405-4C

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 090
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

Carrier 2: BNSF Railway Company		
Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc.	LA0000147272	(800) 336-2169
Acknowledgement of Receipt		
Per:	Date: 4.11.22	

EPA-22121

TICKET 73

ID 653375
GROSS 84880 LbLINEBLIND
08:42AM 04/11/2022

84880
34300
50580

-50580

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 710C410

WEIGHED BY _____

DRIVER Derrick Ware

CO-DRIVER

WASTE MANAGEMENT

CWM TRANSPORTATION - LAKE CHARLES
7170 JOHN BRANNON RD.
SULPHUR, LA 70663
(800) 336-2169

CWM

TRANSPORTER

250070

SERVICE ORDER

PROFILE NUMBER 969843CA	START TRIP LOCATION Sulphur LA	DATE 9.11.22	TIME
	END TRIP LOCATION	DATE	TIME
DISPATCHED BY Ramy	TRUCK # 605375	TRAILER #	TYPE Rail
ORDER CALLED IN BY			

INSTRUCTIONS

P/U

CONTACT

PHONE

LOAD SCHEDULED DATE

LOAD SCHEDULED TIME

SHIPPER NAME CWM for Phillips Energy

ADDRESS

CITY / STATE Iowa LA

P.O. #

HAZARD CLASS UN / NA #

PROPER SHIPPING NAME

	CONTAINER TYPE	CONTAINER NUMBER	SIZE
CONTAINER DROPPED AT JOB SITE	Rail		30
CONTAINER PICKED UP AT JOB SITE	Rail	5121	

LINER DELIVERED: Y N EQUIPMENT WASHOUT: Y N

BOX CONDITION: GOOD FAIR POOR

REMARKS:

ROLL OFF INSTRUCTIONS (✓)

WAIT TO LOAD	DEL. ONLY	SWAP	TURN	P/U ONLY	INTER-PLANT
				✓	

CODES:

1. DEPART FACILITY
2. ARRIVE JOB SITE
3. LEFT JOB SITE
4. ARRIVE TSD
5. DEPART TSD
6. ARRIVED FACILITY
7. BREAKDOWN START
8. BREAKDOWN END
9. OTHER (EXPLAIN)

DATE	TIME AM / PM	CODE	EXPLANATION
	639		CWM
	726		Rail
	740		Rail
	932		CWM
	1015		CWM

DEMURRAGE EXPLANATIONS:

RECEIVER NAME: CWM

ADDRESS 7170 JBR

CITY / STATE Sulphur LA

S.R. # C7120 TIME SLOT

RUN # DATE

SHIPPER SIGNATURE: [signature]
SHIPPER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

MANIFEST #:

DOLLY DOWN EQUIPMENT / BOX #

DOLLY DOWN LOCATION

RECEIVER'S SIGNATURE: [signature]
RECEIVER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

Port 8665

LA0144D-HW

1053804

766397

Bill of Lading (Page 1 of 2)

DOCUMENT # 91405-4D

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Tickets 62121	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	24.35	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225266			
		RAIL CAR# EPIX91405			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 3/7/22	Per: Luis Castro	Date: 3/8/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 0. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 4/11/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91405-4D

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc. Acknowledgement of Receipt	LA0000147272	(800) 336-2169
Per: [illegible]	Date: 4-11-22	

E P14 22 2466

TICKET '70

ID 653204
GROSS 83660 lb INBOUND
08:24AM 04/11/2022

OUTBOUND TICKET '70

GROSS 83660 lb RECALLED 83660 G
TARE 35180 lb 35180 T
NET 48480 lb 48480 N

NET 24.24 TON

08:41AM 04/11/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 766317

WEIGHED BY _____

DRIVER Vernon Paul

CO-DRIVER _____

WASTE MANAGEMENT

CWM TRANSPORTATION - LAKE CHARLES
7170 JOHN BRANNON RD.
SULPHUR, LA 70663
(800) 336-2169

CWM
TRANSPORTER

255268

SERVICE ORDER

PROFILE NUMBER 769843 LA	START TRIP LOCATION Sulphur LA	DATE 4-11-22	TIME		
	END TRIP LOCATION Sulphur LA	DATE 4-11-22	TIME		
DISPATCHED BY Barry	TRUCK # 653204	TRAILER # 707780	TYPE CT		
ORDER CALLED IN BY					
INSTRUCTIONS					
CONTACT					
PHONE					
LOAD SCHEDULED DATE					
LOAD SCHEDULED TIME					

ROLL OFF INSTRUCTIONS (✓)

WAIT TO LOAD	DEL. ONLY	SWAP	TURN	P/U ONLY	INTER-PLANT

CODES:

1. DEPART FACILITY
2. ARRIVE JOB SITE
3. LEFT JOB SITE
4. ARRIVE TSD
5. DEPART TSD
6. ARRIVED FACILITY
7. BREAKDOWN START
8. BREAKDOWN END
9. OTHER (EXPLAIN)

DATE	TIME AM / PM	CODE	EXPLANATION
4-11-22	0715		Philadelphia
	0735		Philadelphia
	0820		CWM
	945		

SHIPPER NAME Philadelphia Fibers LLC			
ADDRESS			
CITY / STATE Lacassine LA			
P.O. #			
HAZARD CLASS 9	UN / NA # 3077		
PROPER SHIPPING NAME			

	CONTAINER TYPE	CONTAINER NUMBER	SIZE
CONTAINER DROPPED AT JOB SITE			
CONTAINER PICKED UP AT JOB SITE	CT	5266	30y

LINER DELIVERED: Y N EQUIPMENT WASHOUT: Y N

BOX CONDITION: GOOD FAIR POOR

REMARKS: EPIU-22-5266

DEMURRAGE EXPLANATIONS:

RECEIVER NAME: CWM	SHIPPER SIGNATURE: [signature] SHIPPER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME
ADDRESS 7170 John Brannon Rd	MANIFEST #: EPIX-91405
CITY / STATE Sulphur LA	DOLLY DOWN EQUIPMENT / BOX #
S.R. # 60212 / TIME SLOT	DOLLY DOWN LOCATION
RUN # / DATE 4-11-22	

RECEIVER'S SIGNATURE: [signature] RECEIVER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

Port 8665

W88316 0091405-4E 7100420

Bill of Lading (Page 1 of 2)

DOCUMENT # 91405-4E

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Ticket 62122	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	22.13	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225206			
		RAIL CAR# EPIX91405			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 3/7/22	Per: Luis Castro	Date: 3/8/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 49 Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 4/11/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91405-4E

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

Carrier 2: BNSF Railway Company
Acknowledgement of Receipt
Per: Date:

Carrier 3: Chemical Waste Management, Inc. LA0000147272 (800) 336-2169
Acknowledgement of Receipt
Per: Date: 4.11.22

78700 G
34400 T
44300 N

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 71c4420

WEIGHED BY _____

DRIVER Donald Gary

CO-DRIVER

WASTE MANAGEMENT

CWM TRANSPORTATION - LAKE CHARLES
7170 JOHN BRANNON RD.
SULPHUR, LA 70663
(800) 336-2169

CWM

TRANSPORTER

255061

SERVICE ORDER

PROFILE NUMBER 969848CA	START TRIP LOCATION Ex. Johnson VA	DATE 4.11.22	TIME
	END TRIP LOCATION	DATE	TIME
DISPATCHED BY Barry	TRUCK # C2522 X5	TRAILER #	TYPE Rail
ORDER CALLED IN BY			
INSTRUCTIONS Swap			
CONTACT			
PHONE			
LOAD SCHEDULED DATE			
LOAD SCHEDULED TIME			
SHIPPER NAME Phi Energy			
ADDRESS			
CITY / STATE Louisville			
P.O. #			
HAZARD CLASS	UN / NA #		
PROPER SHIPPING NAME			

ROLL OFF INSTRUCTIONS (✓)

WAIT TO LOAD	DEL. ONLY	SWAP	TURN	P/U ONLY	INTER-PLANT
		✓			

CODES:

1. DEPART FACILITY
2. ARRIVE JOB SITE
3. LEFT JOB SITE
4. ARRIVE TSD
5. DEPART TSD
6. ARRIVED FACILITY
7. BREAKDOWN START
8. BREAKDOWN END
9. OTHER (EXPLAIN)

DATE	TIME AM / PM	CODE	EXPLANATION
	1017		CWM
	1105		Rail
	1127		Rail
	1250		CWM
	1430		CWM

	CONTAINER TYPE	CONTAINER NUMBER	SIZE
CONTAINER DROPPED AT JOB SITE	Rail	5121	30
CONTAINER PICKED UP AT JOB SITE		5206	

LINER DELIVERED: Y N EQUIPMENT WASHOUT: Y N

BOX CONDITION: GOOD FAIR POOR

DEMURRAGE EXPLANATIONS:

REMARKS:

RECEIVER NAME: CWM		**SHIPPER SIGNATURE:**	
ADDRESS 7170 JBA		SHIPPER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME	
CITY / STATE Sulphur LA		**MANIFEST #:**	
S.R. # C 2122	TIME SLOT	DOLLY DOWN EQUIPMENT / BOX #	
RUN #	DATE	DOLLY DOWN LOCATION	

RECEIVER'S SIGNATURE:

RECEIVER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

Port 8665

VE32704 VE11485-4F 766417

Bill of Lading (Page 1 of 2)

DOCUMENT # 91405-4F

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNK AVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Rec'd 62123	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	24.08	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225232			
		RAIL CAR# EPIX91405			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 3/7/22	Per: Luis Castro	Date: 3/8/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 4/11/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91405-4F

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 090
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company	
Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt	
Per: Vernon Paul	Date: 6-11-22

2/11/2022
TICKET 96

ID 653204
GROSS 82800 lbINBOUND
[illegible] 04/11/2022

[illegible] TICKET 96

GROSS 82800 lb REGULAR 82800 G
TARE 35480 lb 35480 T
NET 47320 lb 47320 N

[illegible] 23.66 ton

[illegible] 04/11/2022

OVERWEIGHT

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 7106417

WEIGHED BY _____

DRIVER Vernon Paul

CO-DRIVER

WASTE MANAGEMENT

CWM TRANSPORTATION - LAKE CHARLES
7170 JOHN BRANNON RD.
SULPHUR, LA 70663
(800) 336-2169

CWM

TRANSPORTER

251377

SERVICE ORDER

PROFILE NUMBER 969843 La

START TRIP LOCATION Sulphur LA — DATE 4-11-22 TIME

END TRIP LOCATION Sulphur LA — DATE 4-11-22 TIME

DISPATCHED BY — TRUCK # 653 204 — TRAILER # 707780 — TYPE CT

ORDER CALLED IN BY

INSTRUCTIONS E/R

CONTACT

PHONE

LOAD SCHEDULED DATE

LOAD SCHEDULED TIME

SHIPPER NAME Philadelphia Energy

ADDRESS

CITY / STATE LA Cassina LA

P.O. #

HAZARD CLASS 9 — UN / NA # 3077

PROPER SHIPPING NAME

	CONTAINER TYPE	CONTAINER NUMBER	SIZE
CONTAINER DROPPED AT JOB SITE	CT	5266	30Y
CONTAINER PICKED UP AT JOB SITE	CT	5232	30Y

LINER DELIVERED: Y N — EQUIPMENT WASHOUT: Y N

BOX CONDITION: GOOD FAIR POOR

REMARKS: EP14-22-5232

ROLL OFF INSTRUCTIONS (✓)

WAIT TO LOAD	DEL. ONLY	SWAP	TURN	P/U ONLY	INTER-PLANT
			✓		

CODES:

1. DEPART FACILITY
2. ARRIVE JOB SITE
3. LEFT JOB SITE
4. ARRIVE TSD
5. DEPART TSD
6. ARRIVED FACILITY
7. BREAKDOWN START
8. BREAKDOWN END
9. OTHER (EXPLAIN)

DATE	TIME AM / PM	CODE	EXPLANATION
4-11-22	9:36	5	CWM
	10:24	2	Philadelphia Energy
	11:10		Philadelphia Energy
	12:45		CWM
	14:00		

DEMURRAGE EXPLANATIONS:

RECEIVER NAME: CWM

ADDRESS 7170 John Brannon Rd

CITY / STATE Sulphur LA

S.R. # 62121 — TIME SLOT

RUN # 2 — DATE 4-11-22

RECEIVER'S SIGNATURE: B Spice

RECEIVER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

SHIPPER SIGNATURE: Ronn Dawson

SHIPPER'S SIGNATURE VERIFIES ARRIVAL AND DEPARTURE TIME

MANIFEST #: EPIX 91405

DOLLY DOWN EQUIPMENT / BOX #

DOLLY DOWN LOCATION

Part 8565

0533875 0011687-444 766357

Bill of Lading (Page 1 of 2)

DOCUMENT# 91027-4A

TO

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION

VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241
Ticket 62112

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	18.70	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225170			
		RAIL CAR# EPIX91027			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:		Date: 3/7/22	Per: Luis Castro		Date: 3/8/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 0. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 4/7/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91027-4A

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt Per: [signature]	Date: 4-7-22

EPA 2231 C

TICKET 55...

ID 653375
GROSS 71680 LbINBOUND
:22:04PM 04/07/2022

CHANGED TICKET 55

[illegible] 71680 Lb RECALLED 71680 G
[illegible] 34580 T
[illegible] 37100 N

[illegible] 18 55 [illegible]

[illegible] 04/07/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 166357

WEIGHED BY _____

0091027-4B

766369

Bill of Lading (Page 1 of 2)

DOCUMENT # 91027-4B

TO
Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

FROM
Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 090
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

ADDITIONAL INFORMATION
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241
Tidd 62113

SHIPPER'S INSTRUCTIONS

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	20.13	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225353			
		RAIL CAR# EPIX91027			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 3/7/22	Per: Luis Castro	Date: 3/8/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Carrie Rhodes	Date: 4-5-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91027-4B

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt Per: [signature]	Date: 4-8

EPA22555

TICKET 20

[illegible] 65704
[illegible] 70680 [illegible]
[illegible] 04/08/2022

[illegible] TICKET 20

[illegible] 70680 [illegible] 70680 G
[illegible] 30280 T
[illegible] 40400 N

[illegible] 30.20 [illegible]

[illegible] 04/08/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 4 X86369

WEIGHED BY _____

052188

0091027-4C 766326

Bill of Lading (Page 1 of 2)

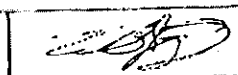
DOCUMENT # 91027-4C

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT, INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1624

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	
Tidub 62114	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	21.63	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225312			
		RAIL CAR# EPIX91027			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:		Date: 3/7/22	Per: Luis Castro		Date: 3/8/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc Certification of receipt of materials

Per: Belinda Spicer Date: 4/7/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91027-4C

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company		
Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc.	LA0000147272	(800) 336-2169
Acknowledgement of Receipt		
Per: Vernon K Paul	Date: 4-7-22	

CPH-22216

TICKET 17

ID 653488
GROSS 73140 lb INBOUND
TARE 04/07/2022

OUTBOUND TICKET 17

GROSS 73140 lb RECALLED 73140 G
TARE 30280 lb 30280 T
NET 42860 lb 42860 N

NET 21.43 TON

DISPOSED 04/07/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 7663296

WEIGHED BY _____

Bill of Lading (Page 1 of 2)

DOCUMENT # 91027-4D

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/a/ 1241	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. 9, III (BENZENE)	CM	20.25	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225186			
		RAIL CAR# EPIX91027			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 3/7/22	Per: Luis Castro	Date: 3/8/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9, Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc — Certification of receipt of materials

Per: Belinda Spicer Date: 4/7/22

Bill of Lading {Continuation Sheet) 2 of 2

DOCUMENT# 91027-4D

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Inc

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt Per: [signature]	Date: 4-7

EPA 3116

TICKET 48

16 455304
62088 72780 INBOUND
01:50PM 04/07/2022

REVISED TICKET 48

GROSS	72780 LB PEGALLED	72780 G
TARE	30520 LB	30520 T
NET	42260 LB	42260 N

[illegible]

[illegible] 04/07/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1106355

WEIGHED BY _____

UN1077-4E

168816

Bill of Lading (Page 1 of 2)

7166368

DOCUMENT # 91027-4E

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 220-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4(a)(1241	
Ticket 62116	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9. III (BENZENE)	CM	20.50	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225340			
		RAIL CAR# EPIX91027			
		ERG# 171 H039 NH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bill of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC			Carrier: CSX Railroad Corp		
Per:	[signature]	Date: 3/7/22	Per: Luis Castro		Date: 3/8/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (iii) of Title 4 9. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Carrie Chiodeaux	Date: 4-8-22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91027-4E

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company Acknowledgement of Receipt	
Per:	Date:
Carrier 3: Chemical Waste Management, Inc.	LA0000147272 (800) 336-2169
Acknowledgement of Receipt Per: [signature]	Date: 4-8-22

EPA122X10

TICKET 19

[illegible] 453795
GROSS 74940 LBS[illegible]
[illegible] 04/09/2022

[illegible] TICKET 19

[illegible] [illegible] LBS PECAN 74940 G
[illegible] [illegible] LBS 34100 T
[illegible] [illegible] LBS 40840 N

[illegible] [illegible] TIME

[illegible] 04/09/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 766364

WEIGHED BY _____

1162188 CCH1127-4F 7666356

Bill of Lading (Page 1 of 2)

DOCUMENT # 91027-4F

TO	FROM
Consignee: CHEMICAL WASTE MANAGEMENT INC	Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 7170 JOHN BRANNON ROAD	Street: 3144 PASSYUNKAVE
EPA ID: LAD000777201	EPA ID: PAD 049791 098
City/State/Zip: SULPHUR LA 70665	City/State/Zip: PHILADELPHIA, PA 19145
Phone: (337) 583-2169	Phone: (440) 228-1524

ADDITIONAL INFORMATION	SHIPPER'S INSTRUCTIONS
VRE TANK BOTTOMS EXCLUDED FROM THE DEFINITION OF SOLID WASTE UNDER 40CFR 261.4/al 1241	

HAZARDOUS MATERIAL	NO. SHIPPING UNITS	DESCRIPTION OF ARTICLES SPECIAL MARKS & EXCEPTIONS	Type	Volume	UOM
X	1	RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. 9.III (BENZENE)	CM	20.63	T
		PROFILE: 969843LA			
		IM CONTAINER# EPIU225153			
		RAIL CAR# EPIX91027			
		ERG# 171 H039 NJH			

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown), marked consigned and destined as indicated above which said carrier (the word carrier being understood through this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery as said destination. If on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the Bills of Lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions.

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC		Carrier: CSX Railroad Corp	
Per:	Date: 3/7/22	Per: Luis Castro	Date: 3/8/22

Mark with "X" or "RQ" if appropriate to designate Hazardous Materials Substances as defined in the Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading 172.201(a)(1) (ii) of Title 4 0. Code of Federal Regulations, Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

Designated Consignee: Chemical Waste Management, Inc	Certification of receipt of materials
Per: Belinda Spicer	Date: 4/7/22

Bill of Lading (Continuation Sheet) 2 of 2

DOCUMENT# 91027-4F

TO ..... FROM

Consignee: CHEMICAL WASTE MANAGEMENT INC
Street: 7170 JOHN BRANNON ROAD
EPA ID: LAD000777201
City/State/Zip: SULPHUR LA 70665
Phone: (337) 583-2169

Shipper: PHILADELPHIA ENERGY SOLUTIONS R&M LLC
Street: 3144 PASSYUNKAVE
EPA ID: PAD 049791 098
City/State/Zip: PHILADELPHIA, PA 19145
Phone: (440) 228-1524

Carrier 2: BNSF Railway Company		
Acknowledgement of Receipt		
Per:	Date:	
Carrier 3: Chemical Waste Management, Inc.	LA0000147272	(800) 336-2169
Acknowledgement of Receipt		
Per: Vernon PAD	Date: 4-7-22	

EPA 1423 1 1

TICKET 49

To 653482
GROSS 71180 lbTHROUGHPUT
01:27PM 04/07/2022

OUTBOUND TICKET 49

GROSS	71180 lb	RECALLED	71180 G
TARE	30300 lb		30300 T
NET	40880 lb		40880 N

TARE 30.44 TON

SCANNED 04/07/2022

CHEMICAL WASTE MANAGEMENT, INC.
7170 JOHN BRANNON ROAD
SULPHUR, LA 70665

RECEIVING TICKET # 1603516

WEIGHED BY _____

ANALYTICAL REPORT

Lab Number:	L2140781
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.005.03
Report Date:	08/10/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2140781
Report Date: 08/10/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2140781-01	PB190-01-SS01	SOIL	PHILADELPHIA, PA	07/29/21 08:35	07/29/21
L2140781-02	PB190-02-SS01	SOIL	PHILADELPHIA, PA	07/29/21 08:45	07/29/21
L2140781-03	PB190-03-SS01	SOIL	PHILADELPHIA, PA	07/29/21 08:55	07/29/21
L2140781-04	PB190-04-SS01	SOIL	PHILADELPHIA, PA	07/29/21 09:05	07/29/21
L2140781-05	PB190-09-SS01	SOIL	PHILADELPHIA, PA	07/29/21 09:25	07/29/21
L2140781-06	PB190-05-SS01	SOIL	PHILADELPHIA, PA	07/29/21 09:40	07/29/21
L2140781-07	PB190-06-SS01	SOIL	PHILADELPHIA, PA	07/29/21 09:55	07/29/21
L2140781-08	PB190-07-SS01	SOIL	PHILADELPHIA, PA	07/29/21 10:05	07/29/21
L2140781-09	PB190-08-SS01	SOIL	PHILADELPHIA, PA	07/29/21 10:35	07/29/21
L2140781-10	PB190-12-SS01	SOIL	PHILADELPHIA, PA	07/29/21 11:00	07/29/21
L2140781-11	PB190-17-SS01	SOIL	PHILADELPHIA, PA	07/29/21 11:20	07/29/21
L2140781-12	PB190-21-SS01	SOIL	PHILADELPHIA, PA	07/29/21 11:30	07/29/21
L2140781-13	PB190-20-SS01	SOIL	PHILADELPHIA, PA	07/29/21 11:45	07/29/21
L2140781-14	PB190-19-SS01	SOIL	PHILADELPHIA, PA	07/29/21 11:55	07/29/21
L2140781-15	PB190-18-SS01	SOIL	PHILADELPHIA, PA	07/29/21 12:15	07/29/21
L2140781-16	PB190-13-SS01	SOIL	PHILADELPHIA, PA	07/29/21 12:30	07/29/21
L2140781-17	PB882-01-SS01	SOIL	PHILADELPHIA, PA	07/29/21 13:20	07/29/21
L2140781-18	PB882-02-SS01	SOIL	PHILADELPHIA, PA	07/29/21 13:40	07/29/21
L2140781-19	DUP-16	SOIL	PHILADELPHIA, PA	07/29/21 00:00	07/29/21
L2140781-20	FB-210729-1	WATER	PHILADELPHIA, PA	07/29/21 12:00	07/29/21
L2140781-21	FB-210729-2	WATER	PHILADELPHIA, PA	07/29/21 14:00	07/29/21
L2140781-22	TB-210729	WATER	PHILADELPHIA, PA	07/29/21 00:00	07/29/21

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2140781
Project Number:	200.00135.005.03	**Report Date:**	08/10/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2140781
Project Number:	200.00135.005.03	**Report Date:**	08/10/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

The analysis of Lead was subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

Volatile Organics

L2140781-01D, -06D, -07D, and -09D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

L2140781-01D: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (154%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2140781-03 and -04: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of non-target compounds in the sample.

L2140781-03: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (197%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2140781-04: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (211%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2140781-06D: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (217%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2140781-07D: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (148%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2140781
Project Number:	200.00135.005.03	**Report Date:**	08/10/21

Case Narrative (continued)

L2140781-09D: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (144%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Microextractables

The WG1530873-2 LCS recovery for 1,2-dibromoethane (129%), associated with L2140781-20 through -22, is outside Alpha's acceptance criteria, but within the acceptance criteria specified in the method.

Semivolatile Organics by SIM

L2140781-09D: The sample has elevated detection limits due to the dilution required by the sample matrix.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 08/10/21

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-01 D
Client ID: PB190-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 08:35
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/21 10:48
Analyst: KJD
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.50	0.050	4
Benzene	ND		mg/kg	0.12	0.041	4
1,2-Dichloroethane	ND		mg/kg	0.25	0.064	4
Toluene	ND		mg/kg	0.25	0.14	4
1,2-Dibromoethane	ND		mg/kg	0.12	0.073	4
Ethylbenzene	ND		mg/kg	0.25	0.035	4
p/m-Xylene	ND		mg/kg	0.50	0.14	4
o-Xylene	ND		mg/kg	0.25	0.072	4
Xylenes, Total	ND		mg/kg	0.25	0.072	4
Isopropylbenzene	2.4		mg/kg	0.25	0.027	4
1,3,5-Trimethylbenzene	ND		mg/kg	0.50	0.048	4
1,2,4-Trimethylbenzene	ND		mg/kg	0.50	0.083	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	111		70-130
4-Bromofluorobenzene	**154**	Q	70-130
Dibromofluoromethane	88		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-02
Client ID: PB190-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 08:45
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/21 14:14
Analyst: KJD
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00098	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00029	1
Xylenes, Total	ND		mg/kg	0.00098	0.00029	1
Isopropylbenzene	ND		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-03
Client ID: PB190-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 08:55
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/21 12:58
Analyst: KJD
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.19	0.019	1
Benzene	0.10		mg/kg	0.048	0.016	1
1,2-Dichloroethane	ND		mg/kg	0.096	0.025	1
Toluene	0.52		mg/kg	0.096	0.052	1
1,2-Dibromoethane	ND		mg/kg	0.048	0.028	1
Ethylbenzene	0.11		mg/kg	0.096	0.014	1
p/m-Xylene	0.40		mg/kg	0.19	0.054	1
o-Xylene	0.13		mg/kg	0.096	0.028	1
Xylenes, Total	0.53		mg/kg	0.096	0.028	1
Isopropylbenzene	0.061	J	mg/kg	0.096	0.010	1
1,3,5-Trimethylbenzene	0.062	J	mg/kg	0.19	0.018	1
1,2,4-Trimethylbenzene	0.20		mg/kg	0.19	0.032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	111		70-130
4-Bromofluorobenzene	**197**	Q	70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-04
Client ID: PB190-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 09:05
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/21 13:24
Analyst: KJD
Percent Solids: 76%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.15	0.015	1
Benzene	0.13		mg/kg	0.038	0.012	1
1,2-Dichloroethane	ND		mg/kg	0.075	0.019	1
Toluene	0.17		mg/kg	0.075	0.041	1
1,2-Dibromoethane	ND		mg/kg	0.038	0.022	1
Ethylbenzene	0.12		mg/kg	0.075	0.010	1
p/m-Xylene	0.28		mg/kg	0.15	0.042	1
o-Xylene	0.056	J	mg/kg	0.075	0.022	1
Xylenes, Total	0.34	J	mg/kg	0.075	0.022	1
Isopropylbenzene	0.65		mg/kg	0.075	0.0082	1
1,3,5-Trimethylbenzene	0.039	J	mg/kg	0.15	0.014	1
1,2,4-Trimethylbenzene	0.23		mg/kg	0.15	0.025	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	123		70-130
4-Bromofluorobenzene	**211**	Q	70-130
Dibromofluoromethane	90		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-05
Client ID: PB190-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 09:25
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/21 14:40
Analyst: KJD
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	0.00036	J	mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-06 D
Client ID: PB190-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 09:40
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/21 11:14
Analyst: KJD
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.55	0.055	4
Benzene	ND		mg/kg	0.14	0.045	4
1,2-Dichloroethane	ND		mg/kg	0.27	0.070	4
Toluene	ND		mg/kg	0.27	0.15	4
1,2-Dibromoethane	ND		mg/kg	0.14	0.080	4
Ethylbenzene	ND		mg/kg	0.27	0.038	4
p/m-Xylene	ND		mg/kg	0.55	0.15	4
o-Xylene	ND		mg/kg	0.27	0.080	4
Xylenes, Total	ND		mg/kg	0.27	0.080	4
Isopropylbenzene	12.		mg/kg	0.27	0.030	4
1,3,5-Trimethylbenzene	ND		mg/kg	0.55	0.053	4
1,2,4-Trimethylbenzene	ND		mg/kg	0.55	0.091	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	123		70-130
4-Bromofluorobenzene	**217**	Q	70-130
Dibromofluoromethane	88		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-07 D
Client ID: PB190-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 09:55
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/21 11:40
Analyst: KJD
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	1.5	0.15	10
Benzene	0.92		mg/kg	0.37	0.12	10
1,2-Dichloroethane	ND		mg/kg	0.74	0.19	10
Toluene	ND		mg/kg	0.74	0.40	10
1,2-Dibromoethane	ND		mg/kg	0.37	0.22	10
Ethylbenzene	0.11	J	mg/kg	0.74	0.10	10
p/m-Xylene	ND		mg/kg	1.5	0.42	10
o-Xylene	ND		mg/kg	0.74	0.22	10
Xylenes, Total	ND		mg/kg	0.74	0.22	10
Isopropylbenzene	11.		mg/kg	0.74	0.081	10
1,3,5-Trimethylbenzene	ND		mg/kg	1.5	0.14	10
1,2,4-Trimethylbenzene	66.		mg/kg	1.5	0.25	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	115		70-130
4-Bromofluorobenzene	**148**	Q	70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-08
Client ID: PB190-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 10:05
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/21 22:10
Analyst: JC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00099	0.00025	1
Toluene	ND		mg/kg	0.00099	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00099	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00099	0.00029	1
Xylenes, Total	ND		mg/kg	0.00099	0.00029	1
Isopropylbenzene	ND		mg/kg	0.00099	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-09 D
Client ID: PB190-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 10:35
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/21 12:06
Analyst: KJD
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	1.2	0.12	10
Benzene	ND		mg/kg	0.29	0.096	10
1,2-Dichloroethane	ND		mg/kg	0.58	0.15	10
Toluene	ND		mg/kg	0.58	0.31	10
1,2-Dibromoethane	ND		mg/kg	0.29	0.17	10
Ethylbenzene	ND		mg/kg	0.58	0.082	10
p/m-Xylene	ND		mg/kg	1.2	0.32	10
o-Xylene	ND		mg/kg	0.58	0.17	10
Xylenes, Total	ND		mg/kg	0.58	0.17	10
Isopropylbenzene	6.7		mg/kg	0.58	0.063	10
1,3,5-Trimethylbenzene	ND		mg/kg	1.2	0.11	10
1,2,4-Trimethylbenzene	0.40	J	mg/kg	1.2	0.19	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	114		70-130
4-Bromofluorobenzene	**144**	Q	70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-10
Client ID: PB190-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/29/21 11:00
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/21 15:04
Analyst: KJD
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00061	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-11
Client ID: PB190-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 11:20
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/21 15:29
Analyst: KJD
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.00028	0.00002	1
Benzene	ND		mg/kg	0.00006	0.00002	1
1,2-Dichloroethane	ND		mg/kg	0.00014	0.00003	1
Toluene	ND		mg/kg	0.00014	0.00007	1
1,2-Dibromoethane	ND		mg/kg	0.00006	0.00004	1
Ethylbenzene	ND		mg/kg	0.00014	0.00001	1
p/m-Xylene	ND		mg/kg	0.00028	0.00007	1
o-Xylene	ND		mg/kg	0.00014	0.00004	1
Xylenes, Total	ND		mg/kg	0.00014	0.00004	1
Isopropylbenzene	ND		mg/kg	0.00014	0.00001	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.00028	0.00002	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.00028	0.00004	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-12
Client ID: PB190-21-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 11:30
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/21 15:54
Analyst: KJD
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00099	0.00025	1
Toluene	ND		mg/kg	0.00099	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00099	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00099	0.00029	1
Xylenes, Total	ND		mg/kg	0.00099	0.00029	1
Isopropylbenzene	ND		mg/kg	0.00099	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-13
Client ID: PB190-20-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/29/21 11:45
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/21 16:19
Analyst: KJD
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-14
Client ID: PB190-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 11:55
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/21 16:43
Analyst: KJD
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00060	1
o-Xylene	ND		mg/kg	0.0011	0.00031	1
Xylenes, Total	ND		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-15
Client ID: PB190-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 12:15
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/21 17:08
Analyst: KJD
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-16
Client ID: PB190-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 12:30
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/21 17:33
Analyst: KJD
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00096	0.00025	1
Toluene	ND		mg/kg	0.00096	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00096	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00096	0.00028	1
Xylenes, Total	ND		mg/kg	0.00096	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00096	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	127		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-17
Client ID: PB882-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/29/21 13:20
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/21 17:58
Analyst: KJD
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	120		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-18
Client ID: PB882-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 13:40
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/21 18:23
Analyst: KJD
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00047	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00095	0.00024	1
Toluene	ND		mg/kg	0.00095	0.00051	1
1,2-Dibromoethane	ND		mg/kg	0.00047	0.00028	1
Ethylbenzene	ND		mg/kg	0.00095	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00053	1
o-Xylene	ND		mg/kg	0.00095	0.00028	1
Xylenes, Total	ND		mg/kg	0.00095	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00095	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-19
Client ID: DUP-16
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 00:00
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/21 18:47
Analyst: KJD
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00044	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00088	0.00022	1
Toluene	ND		mg/kg	0.00088	0.00048	1
1,2-Dibromoethane	ND		mg/kg	0.00044	0.00026	1
Ethylbenzene	ND		mg/kg	0.00088	0.00012	1
p/m-Xylene	ND		mg/kg	0.0018	0.00049	1
o-Xylene	ND		mg/kg	0.00088	0.00025	1
Xylenes, Total	ND		mg/kg	0.00088	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00088	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-20
Client ID: FB-210729-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 12:00
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 08/03/21 13:35
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 08/03/21 10:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-20
Client ID: FB-210729-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/29/21 12:00
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 08/02/21 01:36
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	111		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-21
Client ID: FB-210729-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 14:00
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 08/03/21 13:42
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 08/03/21 10:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-21
Client ID: FB-210729-2
Sample Location: PHILADELPHIA, PA
Date Collected: 07/29/21 14:00
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 08/02/21 02:02
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	110		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-22
Client ID: TB-210729
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 00:00
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 08/03/21 13:48
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 08/03/21 10:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-22
Client ID: TB-210729
Sample Location: PHILADELPHIA, PA
Date Collected: 07/29/21 00:00
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 08/02/21 02:28
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	110		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/01/21 18:58
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 20-22 Batch: WG1530605-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 08/03/21 12:09
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 08/03/21 10:51

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 20-22 Batch: WG1530873-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/04/21 10:23
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01,03-04,06-07,09 Batch: WG1531648-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/04/21 10:23
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02,05,10-19 Batch: WG1531649-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/04/21 21:20
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 08 Batch: WG1531904-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	96		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2140781

Report Date: 08/10/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 20-22 Batch: WG1530605-3 WG1530605-4								
Methyl tert butyl ether	86		87		63-130	1		20
Benzene	100		110		70-130	10		20
1,2-Dichloroethane	95		94		70-130	1		20
Toluene	100		110		70-130	10		20
Ethylbenzene	100		110		70-130	10		20
p/m-Xylene	100		105		70-130	5		20
o-Xylene	100		105		70-130	5		20
Isopropylbenzene	100		110		70-130	10		20
1,3,5-Trimethylbenzene	92		99		64-130	7		20
1,2,4-Trimethylbenzene	93		98		70-130	5		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	89		90		70-130
Toluene-d8	102		101		70-130
4-Bromofluorobenzene	95		98		70-130
Dibromofluoromethane	104		103		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2140781

Report Date: 08/10/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 20-22 Batch: WG1530873-2								
1,2-Dibromoethane	**129**	Q	-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2140781

Report Date: 08/10/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01,03-04,06-07,09 Batch: WG1531648-3 WG1531648-4								
Methyl tert butyl ether	95		98		66-130	3		30
Benzene	86		85		70-130	1		30
1,2-Dichloroethane	93		93		70-130	0		30
Toluene	91		90		70-130	1		30
1,2-Dibromoethane	91		93		70-130	2		30
Ethylbenzene	98		96		70-130	2		30
p/m-Xylene	89		89		70-130	0		30
o-Xylene	90		90		70-130	0		30
Isopropylbenzene	103		101		70-130	2		30
1,3,5-Trimethylbenzene	105		103		70-130	2		30
1,2,4-Trimethylbenzene	106		106		70-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	105		107		70-130
Toluene-d8	108		108		70-130
4-Bromofluorobenzene	111		115		70-130
Dibromofluoromethane	98		97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2140781

Report Date: 08/10/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02,05,10-19 Batch: WG1531649-3 WG1531649-4								
Methyl tert butyl ether	95		98		66-130	3		30
Benzene	86		85		70-130	1		30
1,2-Dichloroethane	93		93		70-130	0		30
Toluene	91		90		70-130	1		30
1,2-Dibromoethane	91		93		70-130	2		30
Ethylbenzene	98		96		70-130	2		30
p/m-Xylene	89		89		70-130	0		30
o-Xylene	90		90		70-130	0		30
Isopropylbenzene	103		101		70-130	2		30
1,3,5-Trimethylbenzene	105		103		70-130	2		30
1,2,4-Trimethylbenzene	106		106		70-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	105		107		70-130
Toluene-d8	108		108		70-130
4-Bromofluorobenzene	111		115		70-130
Dibromofluoromethane	98		97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2140781

Report Date: 08/10/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 08 Batch: WG1531904-3 WG1531904-4								
Methyl tert butyl ether	93		93		66-130	0		30
Benzene	86		83		70-130	4		30
1,2-Dichloroethane	88		87		70-130	1		30
Toluene	92		90		70-130	2		30
1,2-Dibromoethane	87		88		70-130	1		30
Ethylbenzene	99		96		70-130	3		30
p/m-Xylene	92		89		70-130	3		30
o-Xylene	92		90		70-130	2		30
Isopropylbenzene	108		105		70-130	3		30
1,3,5-Trimethylbenzene	108		105		70-130	3		30
1,2,4-Trimethylbenzene	109		107		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		100		70-130
Toluene-d8	109		109		70-130
4-Bromofluorobenzene	118		117		70-130
Dibromofluoromethane	95		95		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-01
Client ID: PB190-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 08:35
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/04/21 00:17
Analyst: DV
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.25		mg/kg	0.0081	0.0015	1
Fluorene	0.27		mg/kg	0.0081	0.00098	1
Phenanthrene	0.35		mg/kg	0.0081	0.00069	1
Anthracene	0.057		mg/kg	0.0081	0.00065	1
Pyrene	0.032		mg/kg	0.0081	0.00057	1
Benzo(a)anthracene	0.0069	J	mg/kg	0.0081	0.00077	1
Chrysene	0.0043	J	mg/kg	0.0081	0.00061	1
Benzo(b)fluoranthene	0.0052	J	mg/kg	0.0081	0.00077	1
Benzo(a)pyrene	0.0042	J	mg/kg	0.0081	0.00098	1
Benzo(ghi)perylene	0.0040	J	mg/kg	0.0081	0.00069	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**170**	Q	23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	66		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-02
Client ID: PB190-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 08:45
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/03/21 20:45
Analyst: DV
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0082	0.0015	1
Fluorene	ND		mg/kg	0.0082	0.00098	1
Phenanthrene	ND		mg/kg	0.0082	0.00070	1
Anthracene	ND		mg/kg	0.0082	0.00065	1
Pyrene	0.00078	J	mg/kg	0.0082	0.00057	1
Benzo(a)anthracene	0.0013	J	mg/kg	0.0082	0.00078	1
Chrysene	0.00065	J	mg/kg	0.0082	0.00061	1
Benzo(b)fluoranthene	0.00090	J	mg/kg	0.0082	0.00078	1
Benzo(a)pyrene	ND		mg/kg	0.0082	0.00098	1
Benzo(ghi)perylene	ND		mg/kg	0.0082	0.00070	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	113		23-120
2-Fluorobiphenyl	63		30-120
4-Terphenyl-d14	61		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-03
Client ID: PB190-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 08:55
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 12:36
Analyst: JJW
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.10		mg/kg	0.0074	0.0013	1
Fluorene	0.023		mg/kg	0.0074	0.00089	1
Phenanthrene	0.048		mg/kg	0.0074	0.00063	1
Anthracene	ND		mg/kg	0.0074	0.00059	1
Pyrene	0.028		mg/kg	0.0074	0.00052	1
Benzo(a)anthracene	0.014		mg/kg	0.0074	0.00070	1
Chrysene	0.018		mg/kg	0.0074	0.00056	1
Benzo(b)fluoranthene	0.016		mg/kg	0.0074	0.00070	1
Benzo(a)pyrene	0.018		mg/kg	0.0074	0.00089	1
Benzo(ghi)perylene	0.022		mg/kg	0.0074	0.00063	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	47		30-120
4-Terphenyl-d14	79		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-04 D
Client ID: PB190-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 09:05
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 12:52
Analyst: JJW
Percent Solids: 76%

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.22		mg/kg	0.017	0.0031	2
Fluorene	0.57		mg/kg	0.017	0.0021	2
Phenanthrene	1.2		mg/kg	0.017	0.0015	2
Anthracene	ND		mg/kg	0.017	0.0014	2
Pyrene	0.050		mg/kg	0.017	0.0012	2
Benzo(a)anthracene	0.0094	J	mg/kg	0.017	0.0016	2
Chrysene	0.013	J	mg/kg	0.017	0.0013	2
Benzo(b)fluoranthene	0.011	J	mg/kg	0.017	0.0016	2
Benzo(a)pyrene	0.010	J	mg/kg	0.017	0.0021	2
Benzo(ghi)perylene	0.013	J	mg/kg	0.017	0.0015	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**142**	Q	23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	84		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-05
Client ID: PB190-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 09:25
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/03/21 21:02
Analyst: DV
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.0067	J	mg/kg	0.0083	0.0015	1
Fluorene	0.012		mg/kg	0.0083	0.0010	1
Phenanthrene	0.037		mg/kg	0.0083	0.00070	1
Anthracene	0.0070	J	mg/kg	0.0083	0.00066	1
Pyrene	0.010		mg/kg	0.0083	0.00058	1
Benzo(a)anthracene	0.0022	J	mg/kg	0.0083	0.00079	1
Chrysene	0.0012	J	mg/kg	0.0083	0.00062	1
Benzo(b)fluoranthene	ND		mg/kg	0.0083	0.00079	1
Benzo(a)pyrene	ND		mg/kg	0.0083	0.0010	1
Benzo(ghi)perylene	ND		mg/kg	0.0083	0.00070	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	97		23-120
2-Fluorobiphenyl	54		30-120
4-Terphenyl-d14	56		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-06
Client ID: PB190-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 09:40
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/04/21 00:49
Analyst: DV
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.18		mg/kg	0.0080	0.0014	1
Fluorene	0.33		mg/kg	0.0080	0.00096	1
Phenanthrene	0.51		mg/kg	0.0080	0.00068	1
Anthracene	0.072		mg/kg	0.0080	0.00064	1
Pyrene	0.028		mg/kg	0.0080	0.00056	1
Benzo(a)anthracene	0.0026	J	mg/kg	0.0080	0.00076	1
Chrysene	0.0024	J	mg/kg	0.0080	0.00060	1
Benzo(b)fluoranthene	0.0012	J	mg/kg	0.0080	0.00076	1
Benzo(a)pyrene	ND		mg/kg	0.0080	0.00096	1
Benzo(ghi)perylene	0.0012	J	mg/kg	0.0080	0.00068	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**158**	Q	23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	68		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-07 D
Client ID: PB190-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 09:55
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 13:08
Analyst: JJW
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.32		mg/kg	0.076	0.014	10
Fluorene	2.6		mg/kg	0.076	0.0091	10
Phenanthrene	5.4		mg/kg	0.076	0.0064	10
Anthracene	ND		mg/kg	0.076	0.0061	10
Pyrene	0.22		mg/kg	0.076	0.0053	10
Benzo(a)anthracene	0.011	J	mg/kg	0.076	0.0072	10
Chrysene	0.017	J	mg/kg	0.076	0.0057	10
Benzo(b)fluoranthene	ND		mg/kg	0.076	0.0072	10
Benzo(a)pyrene	ND		mg/kg	0.076	0.0091	10
Benzo(ghi)perylene	ND		mg/kg	0.076	0.0064	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**130**	Q	23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	91		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-08
Client ID: PB190-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 10:05
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/03/21 21:18
Analyst: DV
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0081	0.0015	1
Fluorene	ND		mg/kg	0.0081	0.00098	1
Phenanthrene	0.0015	J	mg/kg	0.0081	0.00069	1
Anthracene	ND		mg/kg	0.0081	0.00065	1
Pyrene	0.00065	J	mg/kg	0.0081	0.00057	1
Benzo(a)anthracene	ND		mg/kg	0.0081	0.00077	1
Chrysene	ND		mg/kg	0.0081	0.00061	1
Benzo(b)fluoranthene	ND		mg/kg	0.0081	0.00077	1
Benzo(a)pyrene	ND		mg/kg	0.0081	0.00098	1
Benzo(ghi)perylene	ND		mg/kg	0.0081	0.00069	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	109		23-120
2-Fluorobiphenyl	62		30-120
4-Terphenyl-d14	59		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-09 D
Client ID: PB190-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 10:35
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 13:24
Analyst: JJW
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.33		mg/kg	0.079	0.014	10
Fluorene	1.6		mg/kg	0.079	0.0094	10
Phenanthrene	3.6		mg/kg	0.079	0.0067	10
Anthracene	ND		mg/kg	0.079	0.0063	10
Pyrene	0.089		mg/kg	0.079	0.0055	10
Benzo(a)anthracene	0.0094	J	mg/kg	0.079	0.0075	10
Chrysene	ND		mg/kg	0.079	0.0059	10
Benzo(b)fluoranthene	ND		mg/kg	0.079	0.0075	10
Benzo(a)pyrene	ND		mg/kg	0.079	0.0094	10
Benzo(ghi)perylene	ND		mg/kg	0.079	0.0067	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**153**	Q	23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	89		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-10
Client ID: PB190-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 11:00
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/03/21 21:34
Analyst: DV
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0081	0.0015	1
Fluorene	ND		mg/kg	0.0081	0.00097	1
Phenanthrene	ND		mg/kg	0.0081	0.00069	1
Anthracene	ND		mg/kg	0.0081	0.00065	1
Pyrene	ND		mg/kg	0.0081	0.00057	1
Benzo(a)anthracene	ND		mg/kg	0.0081	0.00077	1
Chrysene	ND		mg/kg	0.0081	0.00061	1
Benzo(b)fluoranthene	ND		mg/kg	0.0081	0.00077	1
Benzo(a)pyrene	ND		mg/kg	0.0081	0.00097	1
Benzo(ghi)perylene	ND		mg/kg	0.0081	0.00069	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	102		23-120
2-Fluorobiphenyl	55		30-120
4-Terphenyl-d14	52		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-11
Client ID: PB190-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 11:20
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/03/21 21:51
Analyst: DV
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0081	0.0015	1
Fluorene	ND		mg/kg	0.0081	0.00098	1
Phenanthrene	ND		mg/kg	0.0081	0.00069	1
Anthracene	ND		mg/kg	0.0081	0.00065	1
Pyrene	ND		mg/kg	0.0081	0.00057	1
Benzo(a)anthracene	ND		mg/kg	0.0081	0.00077	1
Chrysene	ND		mg/kg	0.0081	0.00061	1
Benzo(b)fluoranthene	ND		mg/kg	0.0081	0.00077	1
Benzo(a)pyrene	ND		mg/kg	0.0081	0.00098	1
Benzo(ghi)perylene	ND		mg/kg	0.0081	0.00069	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	104		23-120
2-Fluorobiphenyl	55		30-120
4-Terphenyl-d14	53		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-12
Client ID: PB190-21-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 11:30
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/03/21 22:07
Analyst: DV
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0080	0.0014	1
Fluorene	ND		mg/kg	0.0080	0.00096	1
Phenanthrene	ND		mg/kg	0.0080	0.00068	1
Anthracene	ND		mg/kg	0.0080	0.00064	1
Pyrene	0.00056	J	mg/kg	0.0080	0.00056	1
Benzo(a)anthracene	0.00096	J	mg/kg	0.0080	0.00076	1
Chrysene	ND		mg/kg	0.0080	0.00060	1
Benzo(b)fluoranthene	ND		mg/kg	0.0080	0.00076	1
Benzo(a)pyrene	ND		mg/kg	0.0080	0.00096	1
Benzo(ghi)perylene	ND		mg/kg	0.0080	0.00068	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	120		23-120
2-Fluorobiphenyl	61		30-120
4-Terphenyl-d14	59		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-13
Client ID: PB190-20-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 11:45
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/03/21 22:23
Analyst: DV
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0080	0.0014	1
Fluorene	ND		mg/kg	0.0080	0.00096	1
Phenanthrene	ND		mg/kg	0.0080	0.00068	1
Anthracene	ND		mg/kg	0.0080	0.00064	1
Pyrene	ND		mg/kg	0.0080	0.00056	1
Benzo(a)anthracene	0.00092	J	mg/kg	0.0080	0.00076	1
Chrysene	ND		mg/kg	0.0080	0.00060	1
Benzo(b)fluoranthene	ND		mg/kg	0.0080	0.00076	1
Benzo(a)pyrene	ND		mg/kg	0.0080	0.00096	1
Benzo(ghi)perylene	ND		mg/kg	0.0080	0.00068	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**125**	Q	23-120
2-Fluorobiphenyl	64		30-120
4-Terphenyl-d14	63		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-14
Client ID: PB190-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 11:55
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/03/21 22:39
Analyst: DV
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0079	0.0014	1
Fluorene	ND		mg/kg	0.0079	0.00095	1
Phenanthrene	ND		mg/kg	0.0079	0.00068	1
Anthracene	ND		mg/kg	0.0079	0.00064	1
Pyrene	ND		mg/kg	0.0079	0.00056	1
Benzo(a)anthracene	ND		mg/kg	0.0079	0.00075	1
Chrysene	ND		mg/kg	0.0079	0.00060	1
Benzo(b)fluoranthene	ND		mg/kg	0.0079	0.00075	1
Benzo(a)pyrene	ND		mg/kg	0.0079	0.00095	1
Benzo(ghi)perylene	ND		mg/kg	0.0079	0.00068	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	120		23-120
2-Fluorobiphenyl	63		30-120
4-Terphenyl-d14	59		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-15
Client ID: PB190-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 12:15
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/03/21 22:55
Analyst: DV
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0084	0.0015	1
Fluorene	ND		mg/kg	0.0084	0.0010	1
Phenanthrene	ND		mg/kg	0.0084	0.00072	1
Anthracene	ND		mg/kg	0.0084	0.00067	1
Pyrene	ND		mg/kg	0.0084	0.00059	1
Benzo(a)anthracene	ND		mg/kg	0.0084	0.00080	1
Chrysene	ND		mg/kg	0.0084	0.00063	1
Benzo(b)fluoranthene	ND		mg/kg	0.0084	0.00080	1
Benzo(a)pyrene	ND		mg/kg	0.0084	0.0010	1
Benzo(ghi)perylene	ND		mg/kg	0.0084	0.00072	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	113		23-120
2-Fluorobiphenyl	59		30-120
4-Terphenyl-d14	56		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-16
Client ID: PB190-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 12:30
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/03/21 23:12
Analyst: DV
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0081	0.0014	1
Fluorene	ND		mg/kg	0.0081	0.00097	1
Phenanthrene	0.00089	J	mg/kg	0.0081	0.00069	1
Anthracene	ND		mg/kg	0.0081	0.00064	1
Pyrene	0.0018	J	mg/kg	0.0081	0.00056	1
Benzo(a)anthracene	0.0024	J	mg/kg	0.0081	0.00077	1
Chrysene	0.0015	J	mg/kg	0.0081	0.00060	1
Benzo(b)fluoranthene	0.0021	J	mg/kg	0.0081	0.00077	1
Benzo(a)pyrene	0.0011	J	mg/kg	0.0081	0.00097	1
Benzo(ghi)perylene	0.00093	J	mg/kg	0.0081	0.00069	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	95		23-120
2-Fluorobiphenyl	53		30-120
4-Terphenyl-d14	49		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-17
Client ID: PB882-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 13:20
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/03/21 23:28
Analyst: DV
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0078	0.0014	1
Fluorene	ND		mg/kg	0.0078	0.00093	1
Phenanthrene	0.00093	J	mg/kg	0.0078	0.00066	1
Anthracene	ND		mg/kg	0.0078	0.00062	1
Pyrene	0.0014	J	mg/kg	0.0078	0.00054	1
Benzo(a)anthracene	0.0014	J	mg/kg	0.0078	0.00074	1
Chrysene	0.00066	J	mg/kg	0.0078	0.00058	1
Benzo(b)fluoranthene	0.00078	J	mg/kg	0.0078	0.00074	1
Benzo(a)pyrene	ND		mg/kg	0.0078	0.00093	1
Benzo(ghi)perylene	ND		mg/kg	0.0078	0.00066	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	105		23-120
2-Fluorobiphenyl	56		30-120
4-Terphenyl-d14	50		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-18
Client ID: PB882-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 13:40
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/03/21 23:44
Analyst: DV
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0072	0.0013	1
Fluorene	ND		mg/kg	0.0072	0.00087	1
Phenanthrene	ND		mg/kg	0.0072	0.00062	1
Anthracene	ND		mg/kg	0.0072	0.00058	1
Pyrene	ND		mg/kg	0.0072	0.00051	1
Benzo(a)anthracene	0.00094	J	mg/kg	0.0072	0.00069	1
Chrysene	ND		mg/kg	0.0072	0.00054	1
Benzo(b)fluoranthene	ND		mg/kg	0.0072	0.00069	1
Benzo(a)pyrene	ND		mg/kg	0.0072	0.00087	1
Benzo(ghi)perylene	ND		mg/kg	0.0072	0.00062	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**125**	Q	23-120
2-Fluorobiphenyl	67		30-120
4-Terphenyl-d14	66		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-19
Client ID: DUP-16
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 00:00
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/04/21 00:00
Analyst: DV
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0074	0.0013	1
Fluorene	ND		mg/kg	0.0074	0.00088	1
Phenanthrene	ND		mg/kg	0.0074	0.00062	1
Anthracene	ND		mg/kg	0.0074	0.00059	1
Pyrene	ND		mg/kg	0.0074	0.00051	1
Benzo(a)anthracene	ND		mg/kg	0.0074	0.00070	1
Chrysene	ND		mg/kg	0.0074	0.00055	1
Benzo(b)fluoranthene	ND		mg/kg	0.0074	0.00070	1
Benzo(a)pyrene	ND		mg/kg	0.0074	0.00088	1
Benzo(ghi)perylene	ND		mg/kg	0.0074	0.00062	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**131**	Q	23-120
2-Fluorobiphenyl	68		30-120
4-Terphenyl-d14	65		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-20
Client ID: FB-210729-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 12:00
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 08/04/21 21:03
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 08/03/21 14:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	60		15-120
4-Terphenyl-d14	72		41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2140781
Project Number: 200.00135.005.03
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-21
Client ID: FB-210729-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/29/21 14:00
Date Received: 07/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 08/04/21 21:22
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 08/03/21 14:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	61		15-120
4-Terphenyl-d14	70		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 08/03/21 20:29
Analyst: DV

Extraction Method: EPA 3546
Extraction Date: 08/02/21 08:18

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-19 Batch: WG1530420-1					
Naphthalene	ND		mg/kg	0.0065	0.0012
Fluorene	ND		mg/kg	0.0065	0.00078
Phenanthrene	ND		mg/kg	0.0065	0.00055
Anthracene	ND		mg/kg	0.0065	0.00052
Pyrene	ND		mg/kg	0.0065	0.00045
Benzo(a)anthracene	ND		mg/kg	0.0065	0.00062
Chrysene	ND		mg/kg	0.0065	0.00048
Benzo(b)fluoranthene	ND		mg/kg	0.0065	0.00062
Benzo(a)pyrene	ND		mg/kg	0.0065	0.00078
Benzo(ghi)perylene	ND		mg/kg	0.0065	0.00055

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	82		25-120
Phenol-d6	95		10-120
Nitrobenzene-d5	**126**	Q	23-120
2-Fluorobiphenyl	70		30-120
2,4,6-Tribromophenol	126		10-136
4-Terphenyl-d14	77		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 08/04/21 20:44
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 08/03/21 14:04

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 20-21 Batch: WG1531042-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	51		15-120
4-Terphenyl-d14	59		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-19 Batch: WG1530420-2 WG1530420-3								
Naphthalene	72		63		40-140	13		50
Fluorene	75		64		40-140	16		50
Phenanthrene	72		61		40-140	17		50
Anthracene	79		67		40-140	16		50
Pyrene	79		68		35-142	15		50
Benzo(a)anthracene	83		71		40-140	16		50
Chrysene	65		54		40-140	18		50
Benzo(b)fluoranthene	78		65		40-140	18		50
Benzo(a)pyrene	81		68		40-140	17		50
Benzo(ghi)perylene	73		61		40-140	18		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	80		70		25-120
Phenol-d6	91		78		10-120
Nitrobenzene-d5	**121**	Q	106		23-120
2-Fluorobiphenyl	64		56		30-120
2,4,6-Tribromophenol	112		95		10-136
4-Terphenyl-d14	63		55		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2140781
Report Date: 08/10/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 20-21 Batch: WG1531042-2 WG1531042-3								
Naphthalene	54		48		40-140	12		40
Fluorene	58		54		40-140	7		40
Phenanthrene	52		50		40-140	4		40
Anthracene	56		53		40-140	6		40
Pyrene	60		60		26-127	0		40
Benzo(a)anthracene	55		54		40-140	2		40
Chrysene	51		50		40-140	2		40
Benzo(b)fluoranthene	59		59		40-140	0		40
Benzo(a)pyrene	60		58		40-140	3		40
Benzo(ghi)perylene	56		56		40-140	0		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	86		77		23-120
2-Fluorobiphenyl	57		52		15-120
4-Terphenyl-d14	64		64		41-149

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-01
Client ID: PB190-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/29/21 08:35
Date Received: 07/29/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.1		%	0.100	NA	1	-	07/30/21 08:48	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-02
Client ID: PB190-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/29/21 08:45
Date Received: 07/29/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.1		%	0.100	NA	1	-	07/30/21 08:48	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-03
Client ID: PB190-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/29/21 08:55
Date Received: 07/29/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.4		%	0.100	NA	1	-	07/30/21 08:48	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-04
Client ID: PB190-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/29/21 09:05
Date Received: 07/29/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	76.2		%	0.100	NA	1	-	07/30/21 08:48	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-05
Client ID: PB190-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/29/21 09:25
Date Received: 07/29/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.2		%	0.100	NA	1	-	07/30/21 08:48	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-06
Client ID: PB190-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/29/21 09:40
Date Received: 07/29/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.2		%	0.100	NA	1	-	07/30/21 08:48	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-07
Client ID: PB190-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/29/21 09:55
Date Received: 07/29/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.2		%	0.100	NA	1	-	07/30/21 08:48	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-08
Client ID: PB190-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/29/21 10:05
Date Received: 07/29/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.0		%	0.100	NA	1	-	07/30/21 08:48	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-09
Client ID: PB190-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/29/21 10:35
Date Received: 07/29/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.8		%	0.100	NA	1	-	07/30/21 08:48	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-10
Client ID: PB190-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/29/21 11:00
Date Received: 07/29/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.9		%	0.100	NA	1	-	07/30/21 08:48	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-11
Client ID: PB190-17-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/29/21 11:20
Date Received: 07/29/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.1		%	0.100	NA	1	-	07/30/21 08:48	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-12
Client ID: PB190-21-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/29/21 11:30
Date Received: 07/29/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.3		%	0.100	NA	1	-	07/30/21 08:48	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-13
Client ID: PB190-20-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/29/21 11:45
Date Received: 07/29/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.5		%	0.100	NA	1	-	07/30/21 08:48	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-14
Client ID: PB190-19-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/29/21 11:55
Date Received: 07/29/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.5		%	0.100	NA	1	-	07/30/21 08:48	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-15
Client ID: PB190-18-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/29/21 12:15
Date Received: 07/29/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.7		%	0.100	NA	1	-	07/30/21 08:48	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-16
Client ID: PB190-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/29/21 12:30
Date Received: 07/29/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.3		%	0.100	NA	1	-	07/30/21 08:48	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-17
Client ID: PB882-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/29/21 13:20
Date Received: 07/29/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.1		%	0.100	NA	1	-	07/30/21 08:48	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-18
Client ID: PB882-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/29/21 13:40
Date Received: 07/29/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.6		%	0.100	NA	1	-	07/30/21 08:48	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2140781
Report Date: 08/10/21

SAMPLE RESULTS

Lab ID: L2140781-19
Client ID: DUP-16
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/29/21 00:00
Date Received: 07/29/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.3		%	0.100	NA	1	-	07/30/21 08:48	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2140781

Report Date: 08/10/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-19 QC Batch ID: WG1529712-1 QC Sample: L2140781-01 Client ID: PB190-01-SS01						
Solids, Total	80.1	80.2	%	0		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2140781
Report Date: 08/10/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2140781-01A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2140781-01B	Vial water preserved	C	NA		4.1	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-01C	Vial water preserved	C	NA		4.1	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-01D	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		SUB-TOTAL LEAD()
L2140781-01E	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-8270SIM(14)
L2140781-01F	Plastic 120ml unpreserved	C	NA		4.1	Y	Absent		TS(7)
L2140781-02A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2140781-02B	Vial water preserved	C	NA		4.1	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-02C	Vial water preserved	C	NA		4.1	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-02D	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		SUB-TOTAL LEAD()
L2140781-02E	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-8270SIM(14)
L2140781-02F	Plastic 120ml unpreserved	C	NA		4.1	Y	Absent		TS(7)
L2140781-03A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2140781-03B	Vial water preserved	C	NA		4.1	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-03C	Vial water preserved	C	NA		4.1	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-03D	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		SUB-TOTAL LEAD()
L2140781-03E	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-8270SIM(14)
L2140781-03F	Plastic 120ml unpreserved	C	NA		4.1	Y	Absent		TS(7)
L2140781-04A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2140781-04B	Vial water preserved	C	NA		4.1	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-04C	Vial water preserved	C	NA		4.1	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2140781
Report Date: 08/10/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2140781-04D	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		SUB-TOTAL LEAD()
L2140781-04E	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-8270SIM(14)
L2140781-04F	Plastic 120ml unpreserved	C	NA		4.1	Y	Absent		TS(7)
L2140781-05A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2140781-05B	Vial water preserved	C	NA		4.1	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-05C	Vial water preserved	C	NA		4.1	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-05D	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		SUB-TOTAL LEAD()
L2140781-05E	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-8270SIM(14)
L2140781-05F	Plastic 120ml unpreserved	C	NA		4.1	Y	Absent		TS(7)
L2140781-06A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2140781-06B	Vial water preserved	C	NA		4.1	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-06C	Vial water preserved	C	NA		4.1	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-06D	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		SUB-TOTAL LEAD()
L2140781-06E	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-8270SIM(14)
L2140781-06F	Plastic 120ml unpreserved	C	NA		4.1	Y	Absent		TS(7)
L2140781-07A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2140781-07B	Vial water preserved	C	NA		4.1	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-07C	Vial water preserved	C	NA		4.1	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-07D	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		SUB-TOTAL LEAD()
L2140781-07E	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-8270SIM(14)
L2140781-07F	Plastic 120ml unpreserved	C	NA		4.1	Y	Absent		TS(7)
L2140781-08A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2140781-08B	Vial water preserved	C	NA		4.1	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-08C	Vial water preserved	C	NA		4.1	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-08D	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		SUB-TOTAL LEAD()
L2140781-08E	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-8270SIM(14)
L2140781-08F	Plastic 120ml unpreserved	C	NA		4.1	Y	Absent		TS(7)
L2140781-09A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2140781
Report Date: 08/10/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2140781-09B	Vial water preserved	B	NA		3.2	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-09C	Vial water preserved	B	NA		3.2	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-09D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2140781-09E	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)
L2140781-09F	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2140781-10A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2140781-10B	Vial water preserved	B	NA		3.2	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-10C	Vial water preserved	B	NA		3.2	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-10D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2140781-10E	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)
L2140781-10F	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2140781-11A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2140781-11B	Vial water preserved	B	NA		3.2	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-11C	Vial water preserved	B	NA		3.2	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-11D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2140781-11E	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)
L2140781-11F	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2140781-12A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2140781-12B	Vial water preserved	B	NA		3.2	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-12C	Vial water preserved	B	NA		3.2	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-12D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2140781-12E	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)
L2140781-12F	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2140781-13A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2140781-13B	Vial water preserved	B	NA		3.2	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-13C	Vial water preserved	B	NA		3.2	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-13D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2140781-13E	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2140781
Report Date: 08/10/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2140781-13F	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2140781-14A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2140781-14B	Vial water preserved	B	NA		3.2	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-14C	Vial water preserved	B	NA		3.2	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-14D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2140781-14E	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)
L2140781-14F	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2140781-15A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2140781-15B	Vial water preserved	B	NA		3.2	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-15C	Vial water preserved	B	NA		3.2	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-15D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2140781-15E	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)
L2140781-15F	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2140781-16A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2140781-16B	Vial water preserved	B	NA		3.2	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-16C	Vial water preserved	B	NA		3.2	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-16D	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2140781-16E	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)
L2140781-16F	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2140781-17A	Vial MeOH preserved	A	NA		4.8	Y	Absent		PA-8260HLW(14)
L2140781-17B	Vial water preserved	A	NA		4.8	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-17C	Vial water preserved	A	NA		4.8	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-17D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.8	Y	Absent		SUB-TOTAL LEAD()
L2140781-17E	Glass 120ml/4oz unpreserved	A	NA		4.8	Y	Absent		PA-8270SIM(14)
L2140781-17F	Plastic 120ml unpreserved	A	NA		4.8	Y	Absent		TS(7)
L2140781-18A	Vial MeOH preserved	A	NA		4.8	Y	Absent		PA-8260HLW(14)
L2140781-18B	Vial water preserved	A	NA		4.8	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-18C	Vial water preserved	A	NA		4.8	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2140781
Report Date: 08/10/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2140781-18D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.8	Y	Absent		SUB-TOTAL LEAD()
L2140781-18E	Glass 120ml/4oz unpreserved	A	NA		4.8	Y	Absent		PA-8270SIM(14)
L2140781-18F	Plastic 120ml unpreserved	A	NA		4.8	Y	Absent		TS(7)
L2140781-19A	Vial MeOH preserved	A	NA		4.8	Y	Absent		PA-8260HLW(14)
L2140781-19B	Vial water preserved	A	NA		4.8	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-19C	Vial water preserved	A	NA		4.8	Y	Absent	30-JUL-21 07:25	PA-8260HLW(14)
L2140781-19D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.8	Y	Absent		SUB-TOTAL LEAD()
L2140781-19E	Glass 120ml/4oz unpreserved	A	NA		4.8	Y	Absent		PA-8270SIM(14)
L2140781-19F	Plastic 120ml unpreserved	A	NA		4.8	Y	Absent		TS(7)
L2140781-20A	Vial HCl preserved	A	NA		4.8	Y	Absent		PA-8260(14)
L2140781-20B	Vial HCl preserved	A	NA		4.8	Y	Absent		PA-8260(14)
L2140781-20C	Vial HCl preserved	A	NA		4.8	Y	Absent		PA-8260(14)
L2140781-20D	Vial Na2S2O3 preserved	A	NA		4.8	Y	Absent		8011(14)
L2140781-20E	Vial Na2S2O3 preserved	A	NA		4.8	Y	Absent		8011(14)
L2140781-20F	Amber 250ml unpreserved	A	7	7	4.8	Y	Absent		PA-8270SIM-LVI(7)
L2140781-20G	Amber 250ml unpreserved	A	7	7	4.8	Y	Absent		PA-8270SIM-LVI(7)
L2140781-20H	Plastic 250ml HNO3 preserved	A	<2	<2	4.8	Y	Absent		SUB-TOTAL LEAD()
L2140781-21A	Vial HCl preserved	A	NA		4.8	Y	Absent		PA-8260(14)
L2140781-21B	Vial HCl preserved	A	NA		4.8	Y	Absent		PA-8260(14)
L2140781-21C	Vial HCl preserved	A	NA		4.8	Y	Absent		PA-8260(14)
L2140781-21D	Vial Na2S2O3 preserved	A	NA		4.8	Y	Absent		8011(14)
L2140781-21E	Vial Na2S2O3 preserved	A	NA		4.8	Y	Absent		8011(14)
L2140781-21F	Amber 250ml unpreserved	A	7	7	4.8	Y	Absent		PA-8270SIM-LVI(7)
L2140781-21G	Amber 250ml unpreserved	A	7	7	4.8	Y	Absent		PA-8270SIM-LVI(7)
L2140781-21H	Plastic 250ml HNO3 preserved	A	<2	<2	4.8	Y	Absent		SUB-TOTAL LEAD()
L2140781-22A	Vial HCl preserved	A	NA		4.8	Y	Absent		PA-8260(14)
L2140781-22B	Vial HCl preserved	A	NA		4.8	Y	Absent		PA-8260(14)
L2140781-22C	Vial Na2S2O3 preserved	A	NA		4.8	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2140781
Report Date: 08/10/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2140781-22D	Vial Na2S2O3 preserved	A	NA		4.8	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2140781
Project Number:	200.00135.005.03	**Report Date:**	08/10/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2140781
Project Number:	200.00135.005.03	**Report Date:**	08/10/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2140781
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Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2140781
Project Number:	200.00135.005.03	**Report Date:**	08/10/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B
EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.
Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO3-F, EPA 353.2: Nitrate-N, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.
Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. EPA 200.8: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. EPA 245.1 Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 3

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/30/21

ALPHA Job #: L2140781

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client Info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist		Sample Specific Comments	TOTAL # BOTTLES
40781-01	PB190-01-5501	7/26	0835	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-02	PB190-02-5501		0845			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-03	PB190-03-5501		0855			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-04	PB190-04-5501		0905			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-05	PB190-09-5501		0925			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-06	PB190-05-5501		0940			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-07	PB190-06-5501		0955			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-08	PB190-07-5501		1005			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-09	PB190-08-5501		1035			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-10	PB190-12-5501		1100			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
	Container Type					G	G	G	-	-	-	-	-	-	-	-	-		
	Preservative					F	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	7/29 1450		7/29/21 1450
	7/29/21 1655		7/29/21 2200
	7/30/21 0210		7/30/21 02:10

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-RJ)

CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/30/21 | ALPHA Job #: L2140781

Client Information
Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com
☐ These samples have been Previously analyzed by Alpha

Project Information
Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time
☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information — Data Deliverables
☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information
☐ Same as Client Info PO #: 3894

Regulatory Requirements/Report Limits
State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:
Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist		Sample Specific Comments	TOTAL # BOTTLES
40781 -11	PB190-17-5501	7/29	1120	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-12	PB190-21-5501		1130	S		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-13	PB190-20-5501		1145	S		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-14	PB190-19-5501		1155	S		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-15	PB190-18-5501		1215	S		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-16	PB190-13-5501		1230	S		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-17	PB882-01-5501		1320	S		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-18	PB882-02-5501		1340	S		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-19	DUP-16		-	S		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-20	FB-210729-1		1200	W		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		9
	Container Type					G	G	G	-	-	-	-	-	-	-	-	-		
	Preservative					F	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
AAL	7/29 1450	AAL	7/29/21 1450
AAL	7/29/21 1655		7/29/21 1800
AAL	7/30/21 0210		7/30/21 0210

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(LR2) (rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 3 OF 3

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/30/21

ALPHA Job #: L2140781

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client Info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist (1-5)		Sample Specific Comments	TOTAL # BOTTLES
40781-21	FB-210729-2	7/29	1400	W	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		9
-22	TB-210729A	↓	-	W	TS	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐		4

Container Type	G	G	G	-	-	-	-	-	-	-	-	-	
Preservative	F	A	A	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
HAL	7/29 1450	HAL	7/29/21 1450
RB	7/29 1655	RB	7/29 1800
	7/30/21 0210		7/29/2200

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

7/30/21 02:10

FORM NO. 01-01(1-NJ) (rev. 5-JAN-17)

PADEP Short List Analytical List:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6. and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

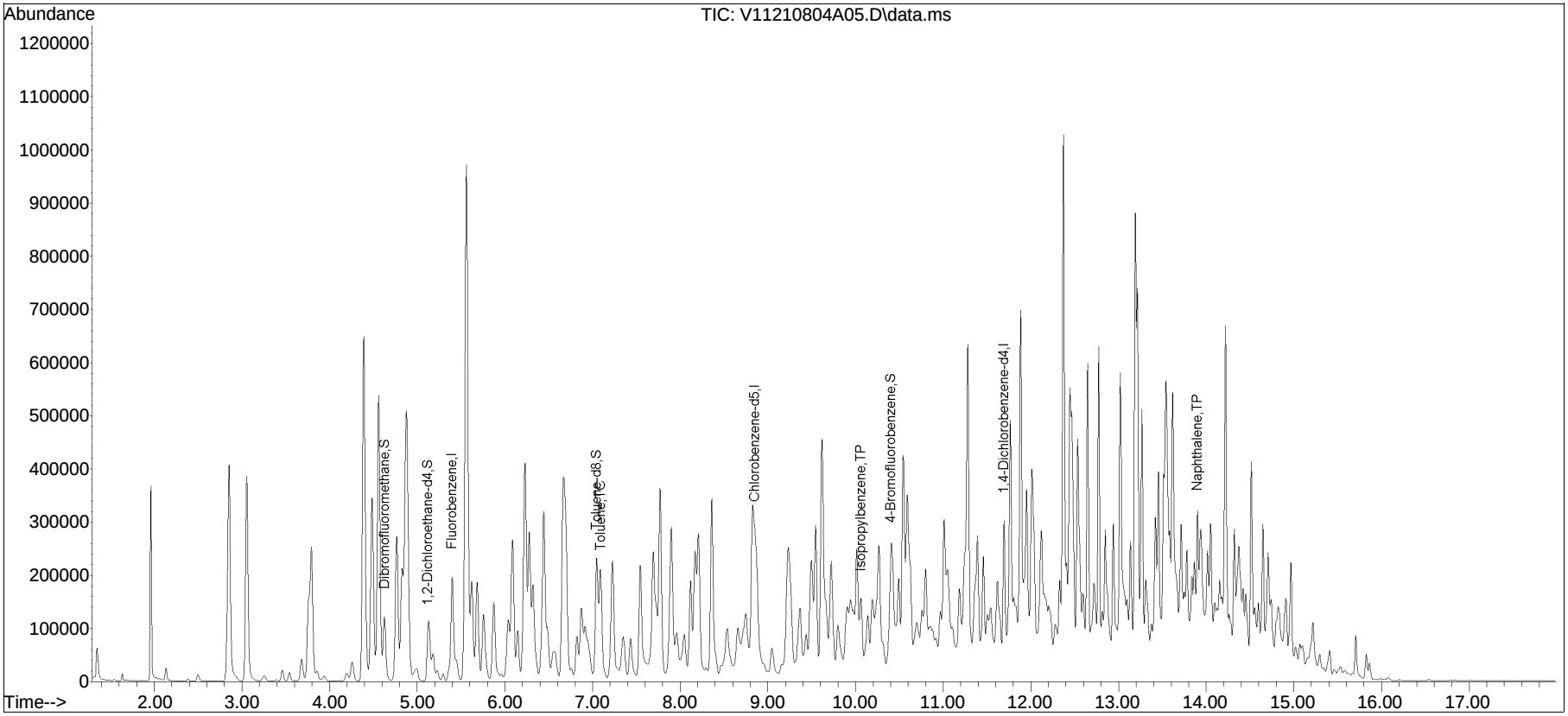
6. Waste Oil – benzene, toluene, ethyl benzene, cumene, naphthalene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, lead

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210804A\
Data File : V11210804A05.D
Acq On : 04 Aug 2021 10:48 am
Operator : VOA111:KJD
Sample : L2140781-01D,31H,6.27,5,0.025,A
Misc : WG1531648,ICAL18049
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 04 18:03:42 2021
Quant Method : I:\VOLATILES\VOA111\2021\210804A\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list04A\V11210804A01.D•



Quantitation Report (QT Reviewed)

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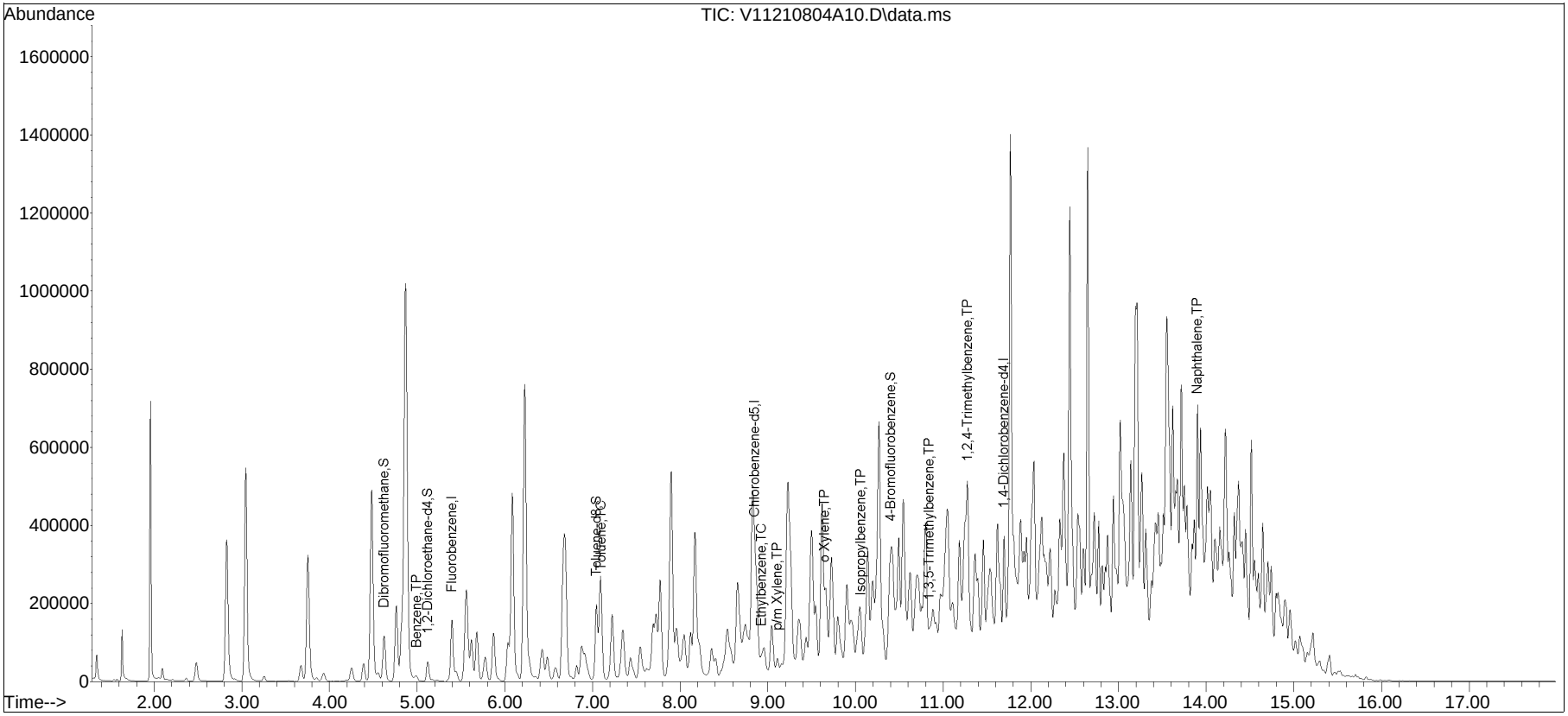
Data File : V11210804A10.D
Acq On : 04 Aug 2021 12:58 pm
Operator : VOA111:KJD
Sample : L2140781-03,31H,3.15,5,0.100,,A
Misc : WG1531648,ICAL18049
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 04 18:06:21 2021
Quant Method : I:\VOLATILES\VOA111\2021\210804A\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list04A\V11210804A01.D•

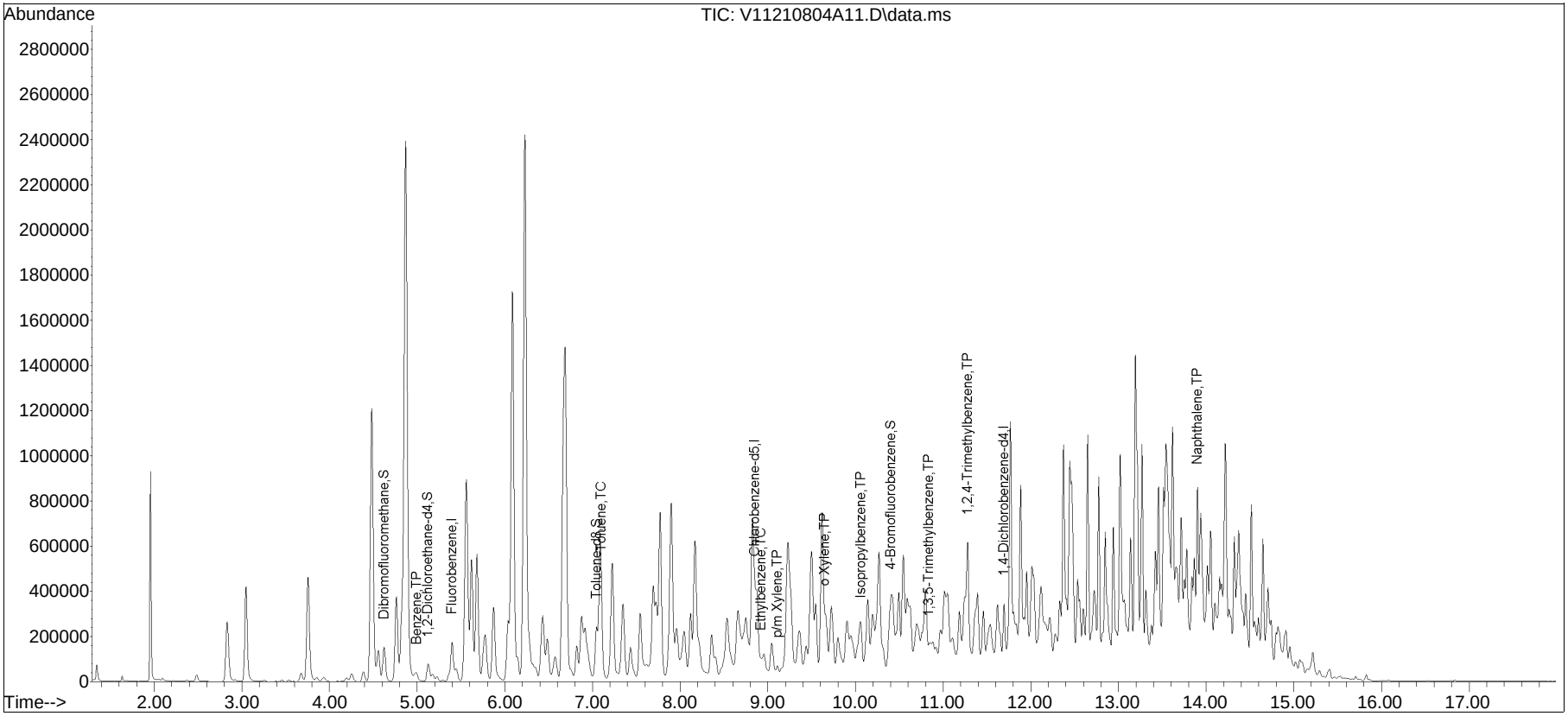


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210804A\
Data File : V11210804A11.D
Acq On : 04 Aug 2021 01:24 pm
Operator : VOA111:KJD
Sample : L2140781-04,31H,5.52,5,0.100,,A
Misc : WG1531648,ICAL18049
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 04 18:06:43 2021
Quant Method : I:\VOLATILES\VOA111\2021\210804A\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list04A\V11210804A01.D•

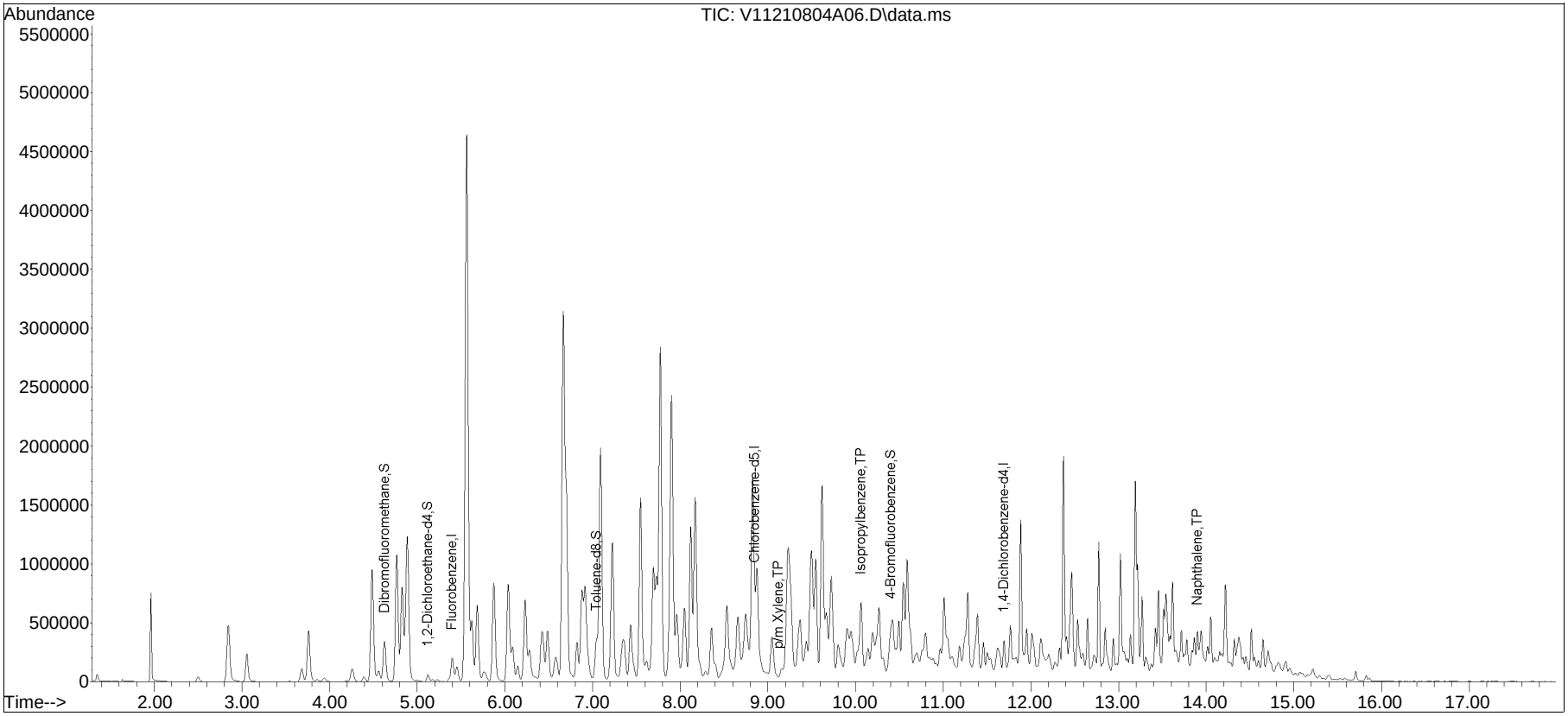


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210804A\
Data File : V11210804A06.D
Acq On : 04 Aug 2021 11:14 am
Operator : VOA111:KJD
Sample : L2140781-06D,31H,5.29,5,0.025,,A
Misc : WG1531648,ICAL18049
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 04 18:04:30 2021
Quant Method : I:\VOLATILES\VOA111\2021\210804A\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list04A\V11210804A01.D•



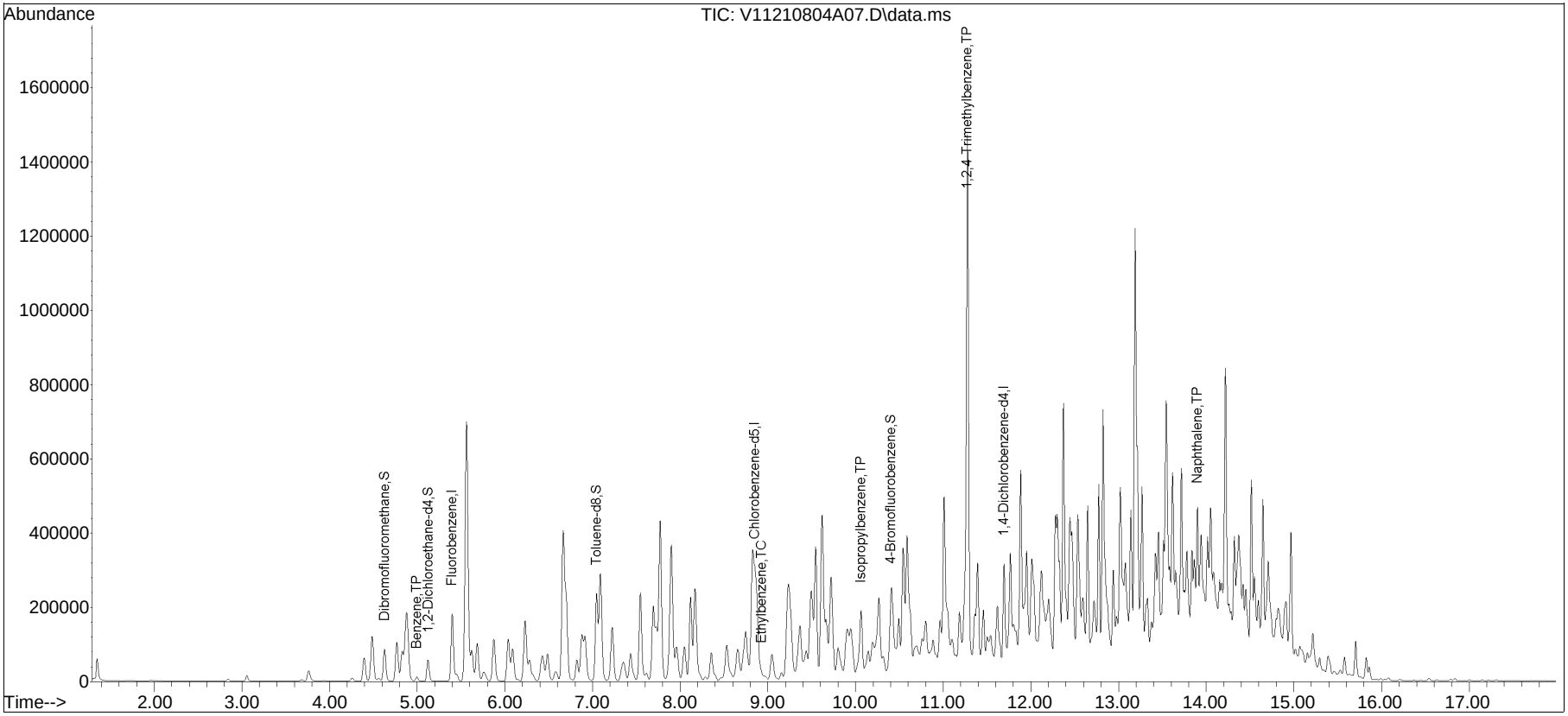
V111_210609A_8260.m Wed Aug 04 19:58:22 2021 SVOA-INSTRUMENT Page: 2

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210804A\
Data File : V11210804A07.D
Acq On : 04 Aug 2021 11:40 am
Operator : VOA111:KJD
Sample : L2140781-07D,31H,4.47,5,0.010,,A
Misc : WG1531648,ICAL18049
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 04 18:05:01 2021
Quant Method : I:\VOLATILES\VOA111\2021\210804A\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list04A\V11210804A01.D•

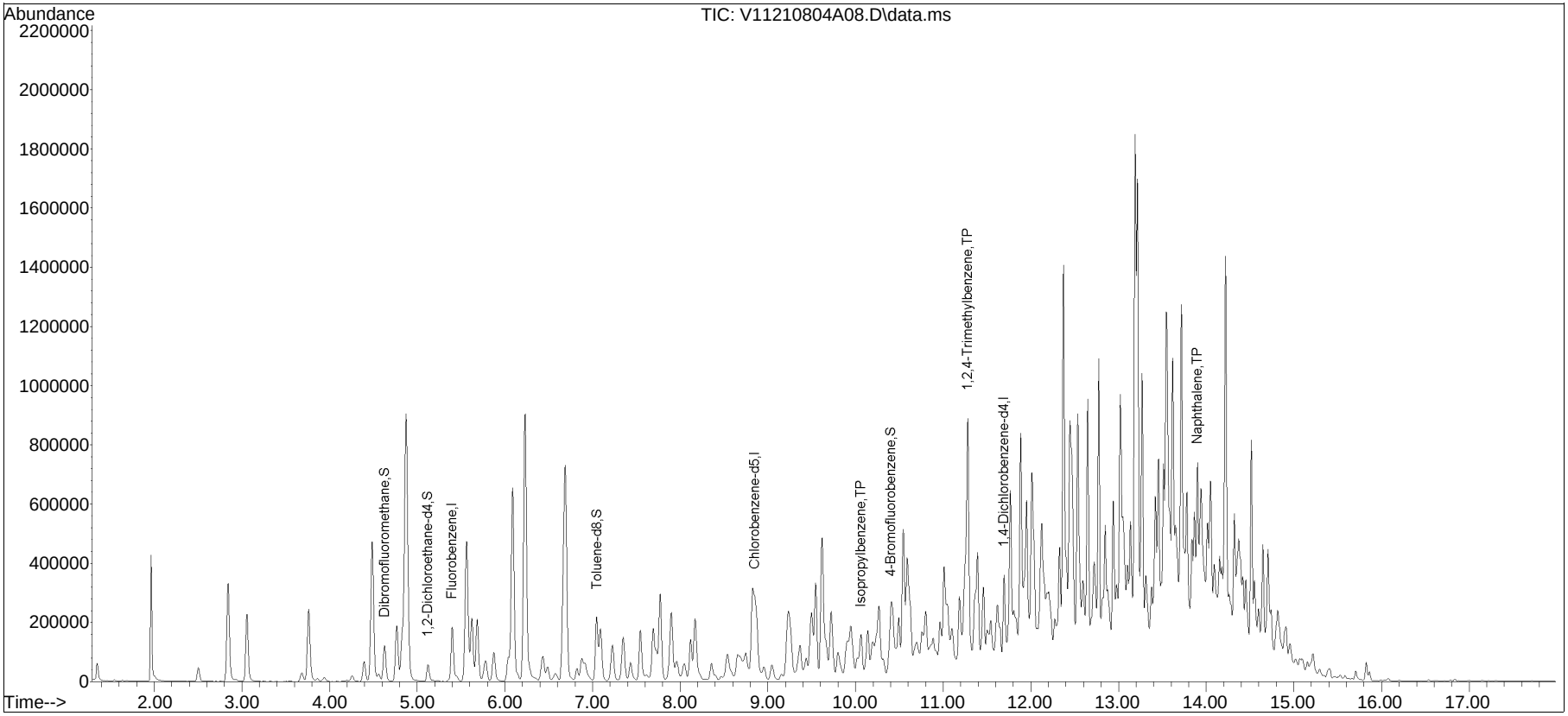


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210804A\
Data File : V11210804A08.D
Acq On : 04 Aug 2021 12:06 pm
Operator : VOA111:KJD
Sample : L2140781-09D,31H,6.35,5,0.010,,A
Misc : WG1531648,ICAL18049
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 04 18:05:20 2021
Quant Method : I:\VOLATILES\VOA111\2021\210804A\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list04A\V11210804A01.D•



SGS

Dayton, NJ

08/06/21

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Alpha Analytical Laboratories, Inc.

Alpha Analytical, PA

L2140781

SGS Job Number: JD29239

Sampling Date: 07/29/21

Report to:

Alpha Analytical Laboratories, Inc.
Eight Walkup Drive
Westborough, MA 01581
nyakes@alphalab.com; subreports@alphalab.com

ATTN: Nadine Yakes

Total number of pages in report: 54

NELAP ACCREDITED TNI LABORATORY

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Mike Earp

Client Service contact: Michelle Jenkins 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

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Section 3: Sample Results **7**
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3.17: JD29239-17: PB882-01-SS01 24
3.18: JD29239-18: PB882-02-SS01 25
3.19: JD29239-19: DUP-16 26
3.20: JD29239-20: FB-210729-1 27
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Section 4: Misc. Forms **29**
4.1: Chain of Custody 30
Section 5: Metals Analysis - QC Data Summaries **34**
5.1: Prep QC MP27844: Pb 35
5.2: Prep QC MP27883: Pb 45

SGS North America Inc.

Sample Summary

Alpha Analytical Laboratories, Inc.

Job No: JD29239

Alpha Analytical, PA
Project No: L2140781

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JD29239-1	07/29/21	08:35		08/02/21	SO	Soil	PB190-01-SS01
JD29239-2	07/29/21	08:45		08/02/21	SO	Soil	PB190-02-SS01
JD29239-3	07/29/21	08:55		08/02/21	SO	Soil	PB190-03-SS01
JD29239-4	07/29/21	09:05		08/02/21	SO	Soil	PB190-04-SS01
JD29239-5	07/29/21	09:25		08/02/21	SO	Soil	PB190-09-SS01
JD29239-6	07/29/21	09:40		08/02/21	SO	Soil	PB190-05-SS01
JD29239-7	07/29/21	09:55		08/02/21	SO	Soil	PB190-06-SS01
JD29239-8	07/29/21	10:05		08/02/21	SO	Soil	PB190-07-SS01
JD29239-9	07/29/21	10:35		08/02/21	SO	Soil	PB190-08-SS01
JD29239-10	07/29/21	11:00		08/02/21	SO	Soil	PB190-12-SS01
JD29239-11	07/29/21	11:20		08/02/21	SO	Soil	PB190-17-SS01
JD29239-12	07/29/21	11:30		08/02/21	SO	Soil	PB190-21-SS01
JD29239-13	07/29/21	11:45		08/02/21	SO	Soil	PB190-20-SS01

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SGS North America Inc.

Sample Summary
(continued)

Alpha Analytical Laboratories, Inc.

Job No: JD29239

Alpha Analytical, PA
Project No: L2140781

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JD29239-14	07/29/21	11:55		08/02/21	SO	Soil	PB190-19-SS01
JD29239-15	07/29/21	12:15		08/02/21	SO	Soil	PB190-18-SS01
JD29239-16	07/29/21	12:30		08/02/21	SO	Soil	PB190-13-SS01
JD29239-17	07/29/21	13:20		08/02/21	SO	Soil	PB882-01-SS01
JD29239-18	07/29/21	13:40		08/02/21	SO	Soil	PB882-02-SS01
JD29239-19	07/29/21	00:00		08/02/21	SO	Soil	DUP-16
JD29239-20	07/29/21	12:00		08/02/21	AQ	Field Blank Soil	FB-210729-1
JD29239-21	07/29/21	14:00		08/02/21	AQ	Field Blank Soil	FB-210729-2

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Summary of Hits

Job Number: JD29239
Account: Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA
Collected: 07/29/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JD29239-1	**PB190-01-SS01**					
Lead		10.3	2.4		mg/kg	SW846 6010D
JD29239-2	**PB190-02-SS01**					
Lead		10	2.5		mg/kg	SW846 6010D
JD29239-3	**PB190-03-SS01**					
Lead		113	2.3		mg/kg	SW846 6010D
JD29239-4	**PB190-04-SS01**					
Lead		18.6	2.6		mg/kg	SW846 6010D
JD29239-5	**PB190-09-SS01**					
Lead		8.2	2.5		mg/kg	SW846 6010D
JD29239-6	**PB190-05-SS01**					
Lead		7.5	2.2		mg/kg	SW846 6010D
JD29239-7	**PB190-06-SS01**					
Lead		7.8	2.4		mg/kg	SW846 6010D
JD29239-8	**PB190-07-SS01**					
Lead		8.2	2.4		mg/kg	SW846 6010D
JD29239-9	**PB190-08-SS01**					
Lead		8.1	2.4		mg/kg	SW846 6010D
JD29239-10	**PB190-12-SS01**					
Lead		6.3	2.4		mg/kg	SW846 6010D
JD29239-11	**PB190-17-SS01**					
Lead		8.4	2.4		mg/kg	SW846 6010D

Summary of Hits

Job Number: JD29239
Account: Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA
Collected: 07/29/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JD29239-12	**PB190-21-SS01**					
Lead		8.3	2.3		mg/kg	SW846 6010D
JD29239-13	**PB190-20-SS01**					
Lead		7.3	2.4		mg/kg	SW846 6010D
JD29239-14	**PB190-19-SS01**					
Lead		8.3	2.5		mg/kg	SW846 6010D
JD29239-15	**PB190-18-SS01**					
Lead		8.1	2.5		mg/kg	SW846 6010D
JD29239-16	**PB190-13-SS01**					
Lead		6.8	2.4		mg/kg	SW846 6010D
JD29239-17	**PB882-01-SS01**					
Lead		4.2	2.4		mg/kg	SW846 6010D
JD29239-18	**PB882-02-SS01**					
Lead		5.3	2.3		mg/kg	SW846 6010D
JD29239-19	**DUP-16**					
Lead		3.9	2.2		mg/kg	SW846 6010D
JD29239-20	**FB-210729-1**					
No hits reported in this sample.						
JD29239-21	**FB-210729-2**					
No hits reported in this sample.						

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB190-01-SS01		
Lab Sample ID:	JD29239-1	**Date Sampled:**	07/29/21
Matrix:	SO - Soil	**Date Received:**	08/02/21
		Percent Solids:	80.1
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	10.3	2.4	mg/kg	1	08/05/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50945
(2) Prep QC Batch: MP27883

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB190-02-SS01		
Lab Sample ID:	JD29239-2	**Date Sampled:**	07/29/21
Matrix:	SO - Soil	**Date Received:**	08/02/21
		Percent Solids:	81.1
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	10	2.5	mg/kg	1	08/05/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50945
(2) Prep QC Batch: MP27883

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB190-03-SS01		
Lab Sample ID:	JD29239-3	**Date Sampled:**	07/29/21
Matrix:	SO - Soil	**Date Received:**	08/02/21
		Percent Solids:	88.4
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	113	2.3	mg/kg	1	08/05/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50945
(2) Prep QC Batch: MP27883

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB190-04-SS01		
Lab Sample ID:	JD29239-4	**Date Sampled:**	07/29/21
Matrix:	SO - Soil	**Date Received:**	08/02/21
		Percent Solids:	76.2
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	18.6	2.6	mg/kg	1	08/05/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50945
(2) Prep QC Batch: MP27883

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB190-09-SS01		
Lab Sample ID:	JD29239-5	**Date Sampled:**	07/29/21
Matrix:	SO - Soil	**Date Received:**	08/02/21
		Percent Solids:	80.2
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	8.2	2.5	mg/kg	1	08/05/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50945
(2) Prep QC Batch: MP27883

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB190-05-SS01		
Lab Sample ID:	JD29239-6	**Date Sampled:**	07/29/21
Matrix:	SO - Soil	**Date Received:**	08/02/21
		Percent Solids:	82.2
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	7.5	2.2	mg/kg	1	08/05/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50945
(2) Prep QC Batch: MP27883

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB190-06-SS01		
Lab Sample ID:	JD29239-7	**Date Sampled:**	07/29/21
Matrix:	SO - Soil	**Date Received:**	08/02/21
		Percent Solids:	85.2
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	7.8	2.4	mg/kg	1	08/05/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50945
(2) Prep QC Batch: MP27883

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB190-07-SS01		
Lab Sample ID:	JD29239-8	**Date Sampled:**	07/29/21
Matrix:	SO - Soil	**Date Received:**	08/02/21
		Percent Solids:	80.0
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	8.2	2.4	mg/kg	1	08/05/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50945
(2) Prep QC Batch: MP27883

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB190-08-SS01		
Lab Sample ID:	JD29239-9	**Date Sampled:**	07/29/21
Matrix:	SO - Soil	**Date Received:**	08/02/21
		Percent Solids:	82.8
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	8.1	2.4	mg/kg	1	08/05/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50945
(2) Prep QC Batch: MP27883

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB190-12-SS01		
Lab Sample ID:	JD29239-10	**Date Sampled:**	07/29/21
Matrix:	SO - Soil	**Date Received:**	08/02/21
		Percent Solids:	79.9
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	6.3	2.4	mg/kg	1	08/05/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50945
(2) Prep QC Batch: MP27883

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB190-17-SS01		
Lab Sample ID:	JD29239-11	**Date Sampled:**	07/29/21
Matrix:	SO - Soil	**Date Received:**	08/02/21
		Percent Solids:	81.1
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	8.4	2.4	mg/kg	1	08/05/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50945
(2) Prep QC Batch: MP27883

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB190-21-SS01		
Lab Sample ID:	JD29239-12	**Date Sampled:**	07/29/21
Matrix:	SO - Soil	**Date Received:**	08/02/21
		Percent Solids:	83.3
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	8.3	2.3	mg/kg	1	08/05/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50945
(2) Prep QC Batch: MP27883

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB190-20-SS01		
Lab Sample ID:	JD29239-13	**Date Sampled:**	07/29/21
Matrix:	SO - Soil	**Date Received:**	08/02/21
		Percent Solids:	81.5
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	7.3	2.4	mg/kg	1	08/05/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50945
(2) Prep QC Batch: MP27883

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB190-19-SS01		
Lab Sample ID:	JD29239-14	**Date Sampled:**	07/29/21
Matrix:	SO - Soil	**Date Received:**	08/02/21
		Percent Solids:	81.5
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	8.3	2.5	mg/kg	1	08/05/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50945
(2) Prep QC Batch: MP27883

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB190-18-SS01		
Lab Sample ID:	JD29239-15	**Date Sampled:**	07/29/21
Matrix:	SO - Soil	**Date Received:**	08/02/21
		Percent Solids:	78.7
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	8.1	2.5	mg/kg	1	08/05/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50945
(2) Prep QC Batch: MP27883

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB190-13-SS01		
Lab Sample ID:	JD29239-16	**Date Sampled:**	07/29/21
Matrix:	SO - Soil	**Date Received:**	08/02/21
		Percent Solids:	82.3
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	6.8	2.4	mg/kg	1	08/05/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50945
(2) Prep QC Batch: MP27883

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB882-01-SS01		
Lab Sample ID:	JD29239-17	**Date Sampled:**	07/29/21
Matrix:	SO - Soil	**Date Received:**	08/02/21
		Percent Solids:	85.1
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	4.2	2.4	mg/kg	1	08/05/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50945
(2) Prep QC Batch: MP27883

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB882-02-SS01		
Lab Sample ID:	JD29239-18	**Date Sampled:**	07/29/21
Matrix:	SO - Soil	**Date Received:**	08/02/21
		Percent Solids:	89.6
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	5.3	2.3	mg/kg	1	08/05/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50945
(2) Prep QC Batch: MP27883

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	DUP-16		
Lab Sample ID:	JD29239-19	**Date Sampled:**	07/29/21
Matrix:	SO - Soil	**Date Received:**	08/02/21
		Percent Solids:	90.3
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	3.9	2.2	mg/kg	1	08/05/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50945
(2) Prep QC Batch: MP27883

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	FB-210729-1		
Lab Sample ID:	JD29239-20	**Date Sampled:**	07/29/21
Matrix:	AQ - Field Blank Soil	**Date Received:**	08/02/21
		Percent Solids:	n/a
Project:	Alpha Analytical, PA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	<3.0	3.0	ug/l	1	08/04/21	08/05/21	ND	SW846 6010D [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA50941
(2) Prep QC Batch: MP27844

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	FB-210729-2		
Lab Sample ID:	JD29239-21	**Date Sampled:**	07/29/21
Matrix:	AQ - Field Blank Soil	**Date Received:**	08/02/21
		Percent Solids:	n/a
Project:	Alpha Analytical, PA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	<3.0	3.0	ug/l	1	08/04/21	08/05/21	ND	SW846 6010D [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA50941
(2) Prep QC Batch: MP27844

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

SO
FB

Subcontract Chain of Custody

SGS- North America
2235 US-130
Dayton, NJ 08810

JD29239

Alpha Job Number
L2140781

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 201.812.9037 Email: nyakes@alphalab.com	Project Location: PA Project Manager: Nadine Yakes **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2140781

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
1	PB190-01-SS01	07-29-21 08:35	SOIL	Total Lead	EG1 T1
2	PB190-02-SS01	07-29-21 08:45	SOIL	Total Lead	
3	PB190-03-SS01	07-29-21 08:55	SOIL	Total Lead	
4	PB190-04-SS01	07-29-21 09:05	SOIL	Total Lead	
5	PB190-09-SS01	07-29-21 09:25	SOIL	Total Lead	
6	PB190-05-SS01	07-29-21 09:40	SOIL	Total Lead	A36
7	PB190-06-SS01	07-29-21 09:55	SOIL	Total Lead	
8	PB190-07-SS01	07-29-21 10:05	SOIL	Total Lead	
9	PB190-08-SS01	07-29-21 10:35	SOIL	Total Lead	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
	AAC	7/30/21 1700		7/30/21 1700
	AAC	7/30/21 2145		8/2/21 1135
Form No: AL_subcoc				

3.0

JD29239: Chain of Custody
Page 1 of 4

Subcontract Chain of Custody

SGS- North America
2235 US-130
Dayton, NJ 08810

JD29239

Alpha Job Number
L2140781

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 201.812.9037 Email: nyakes@alphalab.com	Project Location: PA Project Manager: Nadine Yakes **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2140781

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
10	PB190-12-SS01	07-29-21 11:00	SOIL	Total Lead	
11	PB190-17-SS01	07-29-21 11:20	SOIL	Total Lead	
12	PB190-21-SS01	07-29-21 11:30	SOIL	Total Lead	
13	PB190-20-SS01	07-29-21 11:45	SOIL	Total Lead	
14	PB190-19-SS01	07-29-21 11:55	SOIL	Total Lead	
15	PB190-18-SS01	07-29-21 12:15	SOIL	Total Lead	
16	PB190-13-SS01	07-29-21 12:30	SOIL	Total Lead	
17	PB882-01-SS01	07-29-21 13:20	SOIL	Total Lead	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
	AAL	7/30/21 1708		7/30/21 1700
	AAL	7/30/21 2148		8/2/21 11:35
Form No: AL_subcoc				

JD29239: Chain of Custody
Page 2 of 4

ALPHA ANALYTICAL

Subcontract Chain of Custody

SGS- North America
2235 US-130
Dayton, NJ 08810

JD29239

Alpha Job Number
L2140781

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 201.812.9037 Email: nyakes@alphalab.com	Project Location: PA Project Manager: Nadine Yakes **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2140781

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
18	PB882-02-SS01	07-29-21 13:40	SOIL	Total Lead	
19	DUP-16	07-29-21 00:00	SOIL	Total Lead	
20	FB-210729-1	07-29-21 12:00	WATER	Total Lead	
21	FB-210729-2	07-29-21 14:00	WATER	Total Lead	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
	AAL	7/30/21 1700	AAL	7/30/21 0700
	AAL	7/30/21 2145		8/2/21 11:35

Form No: AL_subcoc

SGS Sample Receipt Summary

Job Number: JD29239 **Client:** ALPHA ANALYTICAL **Project:** L2140781

Date / Time Received: 8/2/2021 11:35:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.0);

Cooler Temps (Corrected) °C: Cooler 1: (3.0);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:			
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 212820 pH 12+: 203117A Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

JD29239: Chain of Custody
Page 4 of 4

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27844
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/04/21

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	16	46		
Antimony	6.0	2.2	4.7		
Arsenic	3.0	1.3	2.8		
Barium	200	.4	13		
Beryllium	1.0	.1	.5		
Bismuth	20	2.1	4		
Boron	100	1	63		
Cadmium	3.0	.2	1		
Calcium	5000	5.6	99		
Cerium	100				
Chromium	10	.5	2		
Cobalt	50	.4	2.6		
Copper	10	1	5.9		
Iron	100	11	32		
Lead	3.0	1.2	1.8	0.10	<3.0
Lithium	50	2.3	7.3		
Magnesium	5000	54	140		
Manganese	15	.1	1.4		
Molybdenum	20	.4	3.6		
Nickel	10	.3	1.7		
Phosphorus	50	1.8	18		
Potassium	10000	55	200		
Selenium	10	2	4.9		
Silicon	200	1.3	100		
Silver	10	.9	1.9		
Sodium	10000	11	570		
Strontium	10	.1	1		
Sulfur	50	4.1	45		
Thallium	10	1.6	1.8		
Tin	10	.9	3.7		
Titanium	10	.4	2.5		
Tungsten	50	2	40		
Vanadium	50	.6	1.8		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27844
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/04/21

Metal	RL	IDL	MDL	MB raw	final
Zinc	20	.1	6.9		
Zirconium	10	.4	4.1		

Associated samples MP27844: JD29239-20, JD29239-21

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27844
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/04/21

Metal	JD29214-1 Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	anr				
Barium	anr				
Beryllium					
Bismuth					
Boron					
Cadmium	anr				
Calcium					
Cerium					
Chromium	anr				
Cobalt					
Copper	anr				
Iron					
Lead	0.0	1900	2000	95.0	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel	anr				
Phosphorus					
Potassium					
Selenium	anr				
Silicon					
Silver	anr				
Sodium					
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					

Page 1

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27844 Methods: SW846 6010D
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 08/04/21

Metal	JD29214-1 Original MS	Spikelot MPSPK2	% Rec	QC Limits
Zinc	anr			
Zirconium				

Associated samples MP27844: JD29239-20, JD29239-21

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27844
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/04/21 08/04/21

Metal	JD29214-1 Original MSD		Spikelot MPSPK2	% Rec	MSD RPD	QC Limit	JD29214-1 Original DUP		RPD	QC Limits
Aluminum										
Antimony										
Arsenic	anr									
Barium	anr									
Beryllium										
Bismuth										
Boron										
Cadmium	anr									
Calcium										
Cerium										
Chromium	anr									
Cobalt										
Copper	anr									
Iron										
Lead	0.0	1900	2000	95.0	0.0	20	0.0	0.0	NC	0-20
Lithium										
Magnesium										
Manganese										
Molybdenum										
Nickel	anr									
Phosphorus										
Potassium										
Selenium	anr									
Silicon										
Silver	anr									
Sodium										
Strontium										
Sulfur										
Thallium										
Tin										
Titanium										
Tungsten										
Vanadium										

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27844
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/04/21 08/04/21

Metal	JD29214-1 Original MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit	JD29214-1 Original DUP	RPD	QC Limits
Zinc	anr							
Zirconium								

Associated samples MP27844: JD29239-20, JD29239-21

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27844
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/04/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	anr			
Beryllium				
Bismuth				
Boron				
Cadmium	anr			
Calcium				
Cerium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron				
Lead	1930	2000	96.5	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27844
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/04/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Zinc	anr			
Zirconium				

Associated samples MP27844: JD29239-20, JD29239-21

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27844 Methods: SW846 6010D
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 08/04/21

Metal	JD29214-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	anr			
Beryllium				
Bismuth				
Boron				
Cadmium	anr			
Calcium				
Cerium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron				
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				

Page 1

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27844 Methods: SW846 6010D
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 08/04/21

Metal	JD29214-1 Original SDL 1:5	%DIF	QC Limits
Zinc	anr		
Zirconium			

Associated samples MP27844: JD29239-20, JD29239-21

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27883
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 08/05/21

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	1.6	8.1		
Antimony	2.0	.25	.41		
Arsenic	2.0	.2	.28		
Barium	20	.04	1.9		
Beryllium	0.20	.01	.08		
Bismuth	2.0	.36	.52		
Boron	10	.19	1.5		
Cadmium	0.50	.04	.07		
Calcium	500	.56	44		
Chromium	1.0	.05	.37		
Cobalt	5.0	.05	.28		
Copper	2.5	.1	.84		
Iron	50	1.1	19		
Lead	2.0	.12	.41	0.090	<2.0
Lithium	5.0	.23	.92		
Magnesium	500	6.5	14		
Manganese	1.5	.02	.41		
Molybdenum	2.0	.04	.32		
Nickel	4.0	.03	.35		
Phosphorus	20	.41	3.3		
Potassium	1000	5.5	32		
Selenium	2.0	.35	.65		
Silicon	20	.16	11		
Silver	0.50	.11	.17		
Sodium	1000	1.1	78		
Strontium	5.0	.01	.18		
Sulfur	10	.44	9.4		
Thallium	1.0	.25	.58		
Tin	20	.1	3.8		
Titanium	1.0	.04	.34		
Tungsten	5.0	.28	1.8		
Vanadium	5.0	.06	.19		
Zinc	5.0	.01	2.3		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27883 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/05/21

Metal	RL	IDL	MDL	MB raw	final
Zirconium	2.0	.04	.23		

Associated samples MP27883: JD29239-1, JD29239-2, JD29239-3, JD29239-4, JD29239-5, JD29239-6, JD29239-7, JD29239-8, JD29239-9, JD29239-10, JD29239-11, JD29239-12, JD29239-13, JD29239-14, JD29239-15, JD29239-16, JD29239-17, JD29239-18, JD29239-19

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27883 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/05/21

Metal	JD29239-9 Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead	8.1	229	239	92.4	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27883 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/05/21

Metal	JD29239-9 Original MS	Spikelot MPSPK2	% Rec	QC Limits
Zirconium				

Associated samples MP27883: JD29239-1, JD29239-2, JD29239-3, JD29239-4, JD29239-5, JD29239-6, JD29239-7, JD29239-8, JD29239-9, JD29239-10, JD29239-11, JD29239-12, JD29239-13, JD29239-14, JD29239-15, JD29239-16, JD29239-17, JD29239-18, JD29239-19

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27883 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/05/21

Metal	JD29239-9 Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead	8.1	228	239	91.9	0.4	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27883 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/05/21

Metal	JD29239-9 Original MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Zirconium					

Associated samples MP27883: JD29239-1, JD29239-2, JD29239-3, JD29239-4, JD29239-5, JD29239-6, JD29239-7, JD29239-8, JD29239-9, JD29239-10, JD29239-11, JD29239-12, JD29239-13, JD29239-14, JD29239-15, JD29239-16, JD29239-17, JD29239-18, JD29239-19

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27883
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 08/05/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	187	200	93.5	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27883
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 08/05/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Zirconium				

Associated samples MP27883: JD29239-1, JD29239-2, JD29239-3, JD29239-4, JD29239-5, JD29239-6, JD29239-7, JD29239-8, JD29239-9, JD29239-10, JD29239-11, JD29239-12, JD29239-13, JD29239-14, JD29239-15, JD29239-16, JD29239-17, JD29239-18, JD29239-19

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27883
Matrix Type: SOLID

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/05/21

Metal	JD29239-9 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	67.6	71.8	6.2	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD29239
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27883 Methods: SW846 6010D
Matrix Type: SOLID Units: ug/l

Prep Date: 08/05/21

Metal	JD29239-9 Original SDL 1:5	%DIF	QC Limits
Zirconium			

Associated samples MP27883: JD29239-1, JD29239-2, JD29239-3, JD29239-4, JD29239-5, JD29239-6, JD29239-7, JD29239-8, JD29239-9, JD29239-10, JD29239-11, JD29239-12, JD29239-13, JD29239-14, JD29239-15, JD29239-16, JD29239-17, JD29239-18, JD29239-19

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

ANALYTICAL REPORT

Lab Number:	L2141062
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.005.03
Report Date:	08/11/21

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2141062
Report Date: 08/11/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2141062-01	PB882-15-SS01	SOIL	PHILADELPHIA, PA	07/30/21 08:40	07/30/21
L2141062-02	PB882-17-SS01	SOIL	PHILADELPHIA, PA	07/30/21 09:00	07/30/21
L2141062-03	PB882-19-SS01	SOIL	PHILADELPHIA, PA	07/30/21 09:30	07/30/21
L2141062-04	PB882-18-SS01	SOIL	PHILADELPHIA, PA	07/30/21 10:30	07/30/21
L2141062-05	PB882-10-SS01	SOIL	PHILADELPHIA, PA	07/30/21 11:10	07/30/21
L2141062-06	PB882-14-SS01	SOIL	PHILADELPHIA, PA	07/30/21 11:20	07/30/21
L2141062-07	PB882-20-SS01	SOIL	PHILADELPHIA, PA	07/30/21 11:30	07/30/21
L2141062-08	PB882-16-SS01	SOIL	PHILADELPHIA, PA	07/30/21 11:40	07/30/21
L2141062-09	PB126-01-SS01	SOIL	PHILADELPHIA, PA	07/30/21 13:00	07/30/21
L2141062-10	PB126-02-SS01	SOIL	PHILADELPHIA, PA	07/30/21 13:35	07/30/21
L2141062-11	PB126-03-SS01	SOIL	PHILADELPHIA, PA	07/30/21 14:05	07/30/21
L2141062-12	PB126-04-SS01	SOIL	PHILADELPHIA, PA	07/30/21 14:15	07/30/21
L2141062-13	PB126-05-SS01	SOIL	PHILADELPHIA, PA	07/30/21 14:20	07/30/21
L2141062-14	PB126-06-SS01	SOIL	PHILADELPHIA, PA	07/30/21 14:30	07/30/21
L2141062-15	DUP-17	SOIL	PHILADELPHIA, PA	07/30/21 00:00	07/30/21
L2141062-16	FB-210730	WATER	PHILADELPHIA, PA	07/30/21 15:00	07/30/21
L2141062-17	TB-210730	WATER	PHILADELPHIA, PA	07/30/21 00:00	07/30/21

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2141062
Project Number:	200.00135.005.03	**Report Date:**	08/11/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2141062
Project Number:	200.00135.005.03	**Report Date:**	08/11/21

Case Narrative (continued)

Report Submission

August 11, 2021: This final report includes the results of all requested analyses.

August 10, 2021: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

The Metals analysis was subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

Volatile Organics

L2141062-05D, -10D, -13D, and -14D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

L2141062-08D and -08D2: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (199% and 136%, respectively) due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

The surrogate recovery for the following samples is outside the acceptance criteria for 4-bromofluorobenzene; however, the samples were not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report:

L2141062-05D: 177%

L2141062-06: 134%

L2141062-09: 149%

L2141062-10D: 199%

L2141062-13D: 186%

L2141062-14D: 222%

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2141062
Project Number:	200.00135.005.03	**Report Date:**	08/11/21

Case Narrative (continued)

Semivolatile Organics by SIM

L2141062-02D, -05D, and -14D: The sample has elevated detection limits due to the dilution required by the sample matrix.

L2141062-16: The Field Blank has results for pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, and benzo(ghi)perylene present above the reporting limits. The sample was verified as being labeled correctly by the laboratory and the previous analysis showed there was no potential for carry over.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 08/11/21

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-01
Client ID: PB882-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 08:40
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 02:25
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-02
Client ID: PB882-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 09:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 02:49
Analyst: JC
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00061	1
o-Xylene	ND		mg/kg	0.0011	0.00031	1
Xylenes, Total	ND		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-03
Client ID: PB882-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 09:30
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 03:14
Analyst: JC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-04
Client ID: PB882-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 10:30
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 03:39
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00061	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	124		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-05 D
Client ID: PB882-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 11:10
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 05:19
Analyst: JC
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.38	0.038	4
Benzene	ND		mg/kg	0.095	0.032	4
1,2-Dichloroethane	ND		mg/kg	0.19	0.049	4
Toluene	ND		mg/kg	0.19	0.10	4
1,2-Dibromoethane	ND		mg/kg	0.095	0.056	4
Ethylbenzene	ND		mg/kg	0.19	0.027	4
p/m-Xylene	ND		mg/kg	0.38	0.11	4
o-Xylene	ND		mg/kg	0.19	0.056	4
Xylenes, Total	ND		mg/kg	0.19	0.056	4
Isopropylbenzene	1.2		mg/kg	0.19	0.021	4
1,3,5-Trimethylbenzene	ND		mg/kg	0.38	0.037	4
1,2,4-Trimethylbenzene	ND		mg/kg	0.38	0.064	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	**177**	Q	70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-06
Client ID: PB882-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 11:20
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 04:04
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	0.0031		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	0.0050		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	0.0077		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	111		70-130
4-Bromofluorobenzene	**134**	Q	70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-07
Client ID: PB882-20-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 11:30
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 04:29
Analyst: JC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00021	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-08 D2
Client ID: PB882-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 11:40
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 09:46
Analyst: AJK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,4-Trimethylbenzene	64.		mg/kg	1.0	0.17	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	119		70-130
4-Bromofluorobenzene	**136**	Q	70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-08 D
Client ID: PB882-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 11:40
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 05:45
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.20	0.020	2
Benzene	ND		mg/kg	0.050	0.017	2
1,2-Dichloroethane	ND		mg/kg	0.10	0.026	2
Toluene	ND		mg/kg	0.10	0.054	2
1,2-Dibromoethane	ND		mg/kg	0.050	0.029	2
Ethylbenzene	17.		mg/kg	0.10	0.014	2
p/m-Xylene	32.		mg/kg	0.20	0.056	2
o-Xylene	7.2		mg/kg	0.10	0.029	2
Xylenes, Total	39.		mg/kg	0.10	0.029	2
Isopropylbenzene	6.4		mg/kg	0.10	0.011	2
1,3,5-Trimethylbenzene	18.		mg/kg	0.20	0.019	2
1,2,4-Trimethylbenzene	61.	E	mg/kg	0.20	0.034	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	124		70-130
4-Bromofluorobenzene	**199**	Q	70-130
Dibromofluoromethane	90		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-09
Client ID: PB126-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 13:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 04:53
Analyst: JC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	0.0014		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	0.00073	J	mg/kg	0.00098	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	0.00030	J	mg/kg	0.00098	0.00014	1
p/m-Xylene	0.0010	J	mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00029	1
Xylenes, Total	0.0010	J	mg/kg	0.00098	0.00029	1
Isopropylbenzene	0.022		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	127		70-130
4-Bromofluorobenzene	**149**	Q	70-130
Dibromofluoromethane	90		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-10 D
Client ID: PB126-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 13:35
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 10:12
Analyst: AJK
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.48	0.048	4
Benzene	ND		mg/kg	0.12	0.040	4
1,2-Dichloroethane	ND		mg/kg	0.24	0.061	4
Toluene	ND		mg/kg	0.24	0.13	4
1,2-Dibromoethane	ND		mg/kg	0.12	0.070	4
Ethylbenzene	0.053	J	mg/kg	0.24	0.034	4
p/m-Xylene	ND		mg/kg	0.48	0.13	4
o-Xylene	ND		mg/kg	0.24	0.069	4
Xylenes, Total	ND		mg/kg	0.24	0.069	4
Isopropylbenzene	9.6		mg/kg	0.24	0.026	4
1,3,5-Trimethylbenzene	ND		mg/kg	0.48	0.046	4
1,2,4-Trimethylbenzene	0.083	J	mg/kg	0.48	0.080	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	118		70-130
4-Bromofluorobenzene	**199**	Q	70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-11
Client ID: PB126-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 14:05
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 11:54
Analyst: AJK
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00020	1
Benzene	0.00029	J	mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00097	0.00025	1
Toluene	ND		mg/kg	0.00097	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00028	1
Ethylbenzene	ND		mg/kg	0.00097	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00097	0.00028	1
Xylenes, Total	ND		mg/kg	0.00097	0.00028	1
Isopropylbenzene	0.0076		mg/kg	0.00097	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	114		70-130
4-Bromofluorobenzene	123		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-12
Client ID: PB126-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/30/21 14:15
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 12:19
Analyst: AJK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00042	J	mg/kg	0.0020	0.00021	1
Benzene	0.0014		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	0.0070		mg/kg	0.0010	0.00014	1
p/m-Xylene	0.00091	J	mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	0.00091	J	mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.038		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	0.00084	J	mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	0.0042		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	120		70-130
4-Bromofluorobenzene	125		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-13 D
Client ID: PB126-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 14:20
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 11:04
Analyst: AJK
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.31	0.031	2
Benzene	ND		mg/kg	0.078	0.026	2
1,2-Dichloroethane	ND		mg/kg	0.16	0.040	2
Toluene	ND		mg/kg	0.16	0.085	2
1,2-Dibromoethane	ND		mg/kg	0.078	0.046	2
Ethylbenzene	0.085	J	mg/kg	0.16	0.022	2
p/m-Xylene	0.13	J	mg/kg	0.31	0.088	2
o-Xylene	ND		mg/kg	0.16	0.046	2
Xylenes, Total	0.13	J	mg/kg	0.16	0.046	2
Isopropylbenzene	3.8		mg/kg	0.16	0.017	2
1,3,5-Trimethylbenzene	ND		mg/kg	0.31	0.030	2
1,2,4-Trimethylbenzene	0.16	J	mg/kg	0.31	0.052	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	111		70-130
4-Bromofluorobenzene	**186**	Q	70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-14 D
Client ID: PB126-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 14:30
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 10:38
Analyst: AJK
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.91	0.091	4
Benzene	0.27		mg/kg	0.23	0.075	4
1,2-Dichloroethane	ND		mg/kg	0.45	0.12	4
Toluene	ND		mg/kg	0.45	0.25	4
1,2-Dibromoethane	ND		mg/kg	0.23	0.13	4
Ethylbenzene	0.58		mg/kg	0.45	0.064	4
p/m-Xylene	0.80	J	mg/kg	0.91	0.25	4
o-Xylene	ND		mg/kg	0.45	0.13	4
Xylenes, Total	0.80	J	mg/kg	0.45	0.13	4
Isopropylbenzene	27.		mg/kg	0.45	0.049	4
1,3,5-Trimethylbenzene	ND		mg/kg	0.91	0.087	4
1,2,4-Trimethylbenzene	0.61	J	mg/kg	0.91	0.15	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	113		70-130
4-Bromofluorobenzene	**222**	Q	70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-15
Client ID: DUP-17
Sample Location: PHILADELPHIA, PA
Date Collected: 07/30/21 00:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 12:44
Analyst: AJK
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0047	0.00047	1
Benzene	ND		mg/kg	0.0012	0.00039	1
1,2-Dichloroethane	ND		mg/kg	0.0023	0.00060	1
Toluene	ND		mg/kg	0.0023	0.0013	1
1,2-Dibromoethane	ND		mg/kg	0.0012	0.00069	1
Ethylbenzene	ND		mg/kg	0.0023	0.00033	1
p/m-Xylene	ND		mg/kg	0.0047	0.0013	1
o-Xylene	ND		mg/kg	0.0023	0.00068	1
Xylenes, Total	ND		mg/kg	0.0023	0.00068	1
Isopropylbenzene	ND		mg/kg	0.0023	0.00026	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0047	0.00045	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0047	0.00078	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-16
Client ID: FB-210730
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 15:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 08/04/21 14:46
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 08/04/21 13:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-16
Client ID: FB-210730
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 15:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 08/03/21 17:32
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	87		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-17
Client ID: TB-210730
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 00:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 08/04/21 14:52
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 08/04/21 13:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-17
Client ID: TB-210730
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 00:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 08/03/21 17:53
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	86		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 08/04/21 14:21
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 08/04/21 13:04

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 16-17 Batch: WG1531419-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2141062

Project Number: 200.00135.005.03 **Report Date:** 08/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/03/21 17:12
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 16-17 Batch: WG1531532-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2141062

Project Number: 200.00135.005.03 **Report Date:** 08/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/04/21 21:20
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-04,06-07,09 Batch: WG1531904-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/05/21 09:21
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 08,10,13-14 Batch: WG1531906-10					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/04/21 21:20
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 05,08 Batch: WG1531906-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/05/21 09:21
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 11-12,15 Batch: WG1532117-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2141062

Report Date: 08/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 16-17 Batch: WG1531419-2								
1,2-Dibromoethane	105		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2141062

Report Date: 08/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16-17 Batch: WG1531532-3 WG1531532-4								
Methyl tert butyl ether	76		78		63-130	3		20
Benzene	86		90		70-130	5		20
1,2-Dichloroethane	81		83		70-130	2		20
Toluene	88		90		70-130	2		20
Ethylbenzene	88		91		70-130	3		20
p/m-Xylene	90		90		70-130	0		20
o-Xylene	85		90		70-130	6		20
Isopropylbenzene	88		90		70-130	2		20
1,3,5-Trimethylbenzene	89		89		64-130	0		20
1,2,4-Trimethylbenzene	90		88		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	86		87		70-130
Toluene-d8	94		92		70-130
4-Bromofluorobenzene	90		90		70-130
Dibromofluoromethane	93		95		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-04,06-07,09 Batch: WG1531904-3 WG1531904-4								
Methyl tert butyl ether	93		93		66-130	0		30
Benzene	86		83		70-130	4		30
1,2-Dichloroethane	88		87		70-130	1		30
Toluene	92		90		70-130	2		30
1,2-Dibromoethane	87		88		70-130	1		30
Ethylbenzene	99		96		70-130	3		30
p/m-Xylene	92		89		70-130	3		30
o-Xylene	92		90		70-130	2		30
Isopropylbenzene	108		105		70-130	3		30
1,3,5-Trimethylbenzene	108		105		70-130	3		30
1,2,4-Trimethylbenzene	109		107		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		100		70-130
Toluene-d8	109		109		70-130
4-Bromofluorobenzene	118		117		70-130
Dibromofluoromethane	95		95		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2141062

Report Date: 08/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 05,08 Batch: WG1531906-3 WG1531906-4								
Methyl tert butyl ether	93		93		66-130	0		30
Benzene	86		83		70-130	4		30
1,2-Dichloroethane	88		87		70-130	1		30
Toluene	92		90		70-130	2		30
1,2-Dibromoethane	87		88		70-130	1		30
Ethylbenzene	99		96		70-130	3		30
p/m-Xylene	92		89		70-130	3		30
o-Xylene	92		90		70-130	2		30
Isopropylbenzene	108		105		70-130	3		30
1,3,5-Trimethylbenzene	108		105		70-130	3		30
1,2,4-Trimethylbenzene	109		107		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		100		70-130
Toluene-d8	108		109		70-130
4-Bromofluorobenzene	118		117		70-130
Dibromofluoromethane	95		95		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2141062

Report Date: 08/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 08,10,13-14 Batch: WG1531906-8 WG1531906-9								
Methyl tert butyl ether	98		97		66-130	1		30
Benzene	87		85		70-130	2		30
1,2-Dichloroethane	92		92		70-130	0		30
Toluene	96		92		70-130	4		30
1,2-Dibromoethane	89		88		70-130	1		30
Ethylbenzene	103		99		70-130	4		30
p/m-Xylene	96		91		70-130	5		30
o-Xylene	96		91		70-130	5		30
Isopropylbenzene	113		108		70-130	5		30
1,3,5-Trimethylbenzene	112		108		70-130	4		30
1,2,4-Trimethylbenzene	112		109		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		103		70-130
Toluene-d8	111		107		70-130
4-Bromofluorobenzene	115		114		70-130
Dibromofluoromethane	94		96		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2141062

Report Date: 08/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 11-12,15 Batch: WG1532117-3 WG1532117-4								
Methyl tert butyl ether	98		97		66-130	1		30
Benzene	87		85		70-130	2		30
1,2-Dichloroethane	92		92		70-130	0		30
Toluene	96		92		70-130	4		30
1,2-Dibromoethane	89		88		70-130	1		30
Ethylbenzene	103		99		70-130	4		30
p/m-Xylene	96		91		70-130	5		30
o-Xylene	96		91		70-130	5		30
Isopropylbenzene	113		108		70-130	5		30
1,3,5-Trimethylbenzene	112		108		70-130	4		30
1,2,4-Trimethylbenzene	112		109		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		103		70-130
Toluene-d8	111		107		70-130
4-Bromofluorobenzene	115		114		70-130
Dibromofluoromethane	94		96		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-01
Client ID: PB882-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 08:40
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 12:59
Analyst: JJW
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.0094		mg/kg	0.0080	0.0014	1
Fluorene	0.015		mg/kg	0.0080	0.00096	1
Phenanthrene	0.079		mg/kg	0.0080	0.00068	1
Anthracene	0.024		mg/kg	0.0080	0.00064	1
Pyrene	0.047		mg/kg	0.0080	0.00056	1
Benzo(a)anthracene	0.030		mg/kg	0.0080	0.00076	1
Chrysene	0.023		mg/kg	0.0080	0.00060	1
Benzo(b)fluoranthene	0.024		mg/kg	0.0080	0.00076	1
Benzo(a)pyrene	0.019		mg/kg	0.0080	0.00096	1
Benzo(ghi)perylene	0.0076	J	mg/kg	0.0080	0.00068	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	61		23-120
2-Fluorobiphenyl	54		30-120
4-Terphenyl-d14	57		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-02 D
Client ID: PB882-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 09:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 13:41
Analyst: JJW
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.0096	J	mg/kg	0.014	0.0026	2
Fluorene	0.088		mg/kg	0.014	0.0017	2
Phenanthrene	0.11		mg/kg	0.014	0.0012	2
Anthracene	ND		mg/kg	0.014	0.0012	2
Pyrene	0.0089	J	mg/kg	0.014	0.0010	2
Benzo(a)anthracene	0.0069	J	mg/kg	0.014	0.0014	2
Chrysene	0.028		mg/kg	0.014	0.0011	2
Benzo(b)fluoranthene	0.0048	J	mg/kg	0.014	0.0014	2
Benzo(a)pyrene	0.0020	J	mg/kg	0.014	0.0017	2
Benzo(ghi)perylene	0.0020	J	mg/kg	0.014	0.0012	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	96		23-120
2-Fluorobiphenyl	93		30-120
4-Terphenyl-d14	111		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-03
Client ID: PB882-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 09:30
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/05/21 19:37
Analyst: DV
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0082	0.0015	1
Fluorene	ND		mg/kg	0.0082	0.00098	1
Phenanthrene	0.0014	J	mg/kg	0.0082	0.00070	1
Anthracene	ND		mg/kg	0.0082	0.00065	1
Pyrene	ND		mg/kg	0.0082	0.00057	1
Benzo(a)anthracene	ND		mg/kg	0.0082	0.00078	1
Chrysene	ND		mg/kg	0.0082	0.00061	1
Benzo(b)fluoranthene	ND		mg/kg	0.0082	0.00078	1
Benzo(a)pyrene	ND		mg/kg	0.0082	0.00098	1
Benzo(ghi)perylene	ND		mg/kg	0.0082	0.00070	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**126**	Q	23-120
2-Fluorobiphenyl	104		30-120
4-Terphenyl-d14	**128**	Q	18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-04
Client ID: PB882-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 10:30
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/05/21 19:53
Analyst: DV
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0079	0.0014	1
Fluorene	ND		mg/kg	0.0079	0.00094	1
Phenanthrene	0.0041	J	mg/kg	0.0079	0.00067	1
Anthracene	0.00075	J	mg/kg	0.0079	0.00063	1
Pyrene	0.0020	J	mg/kg	0.0079	0.00055	1
Benzo(a)anthracene	ND		mg/kg	0.0079	0.00075	1
Chrysene	ND		mg/kg	0.0079	0.00059	1
Benzo(b)fluoranthene	ND		mg/kg	0.0079	0.00075	1
Benzo(a)pyrene	ND		mg/kg	0.0079	0.00094	1
Benzo(ghi)perylene	ND		mg/kg	0.0079	0.00067	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**134**	Q	23-120
2-Fluorobiphenyl	108		30-120
4-Terphenyl-d14	**142**	Q	18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-05 D
Client ID: PB882-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 11:10
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/08/21 20:58
Analyst: RP
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.16		mg/kg	0.036	0.0065	5
Fluorene	0.57		mg/kg	0.036	0.0043	5
Phenanthrene	1.4		mg/kg	0.036	0.0031	5
Anthracene	0.068		mg/kg	0.036	0.0029	5
Pyrene	0.083		mg/kg	0.036	0.0025	5
Benzo(a)anthracene	0.022	J	mg/kg	0.036	0.0034	5
Chrysene	0.27		mg/kg	0.036	0.0027	5
Benzo(b)fluoranthene	0.028	J	mg/kg	0.036	0.0034	5
Benzo(a)pyrene	0.014	J	mg/kg	0.036	0.0043	5
Benzo(ghi)perylene	0.018	J	mg/kg	0.036	0.0031	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**179**	Q	23-120
2-Fluorobiphenyl	109		30-120
4-Terphenyl-d14	118		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-06 D
Client ID: PB882-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 11:20
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/10/21 13:49
Analyst: JJW
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.13		mg/kg	0.016	0.0029	2
Fluorene	0.29		mg/kg	0.016	0.0019	2
Phenanthrene	0.84		mg/kg	0.016	0.0014	2
Anthracene	ND		mg/kg	0.016	0.0013	2
Pyrene	0.050		mg/kg	0.016	0.0011	2
Benzo(a)anthracene	0.035		mg/kg	0.016	0.0015	2
Chrysene	0.16		mg/kg	0.016	0.0012	2
Benzo(b)fluoranthene	0.020		mg/kg	0.016	0.0015	2
Benzo(a)pyrene	0.018		mg/kg	0.016	0.0019	2
Benzo(ghi)perylene	0.0097	J	mg/kg	0.016	0.0014	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**168**	Q	23-120
2-Fluorobiphenyl	99		30-120
4-Terphenyl-d14	114		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-07 D
Client ID: PB882-20-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 11:30
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 14:29
Analyst: JJW
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.062		mg/kg	0.016	0.0028	2
Fluorene	0.46		mg/kg	0.016	0.0019	2
Phenanthrene	1.2		mg/kg	0.016	0.0013	2
Anthracene	ND		mg/kg	0.016	0.0013	2
Pyrene	0.14		mg/kg	0.016	0.0011	2
Benzo(a)anthracene	0.076		mg/kg	0.016	0.0015	2
Chrysene	0.42		mg/kg	0.016	0.0012	2
Benzo(b)fluoranthene	0.074		mg/kg	0.016	0.0015	2
Benzo(a)pyrene	0.040		mg/kg	0.016	0.0019	2
Benzo(ghi)perylene	0.038		mg/kg	0.016	0.0013	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	113		23-120
2-Fluorobiphenyl	85		30-120
4-Terphenyl-d14	95		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-08 D
Client ID: PB882-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 11:40
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/10/21 13:32
Analyst: JJW
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	4.2		mg/kg	0.077	0.014	10
Fluorene	0.78		mg/kg	0.077	0.0092	10
Phenanthrene	2.3		mg/kg	0.077	0.0065	10
Anthracene	ND		mg/kg	0.077	0.0062	10
Pyrene	0.16		mg/kg	0.077	0.0054	10
Benzo(a)anthracene	0.070	J	mg/kg	0.077	0.0073	10
Chrysene	0.44		mg/kg	0.077	0.0058	10
Benzo(b)fluoranthene	0.047	J	mg/kg	0.077	0.0073	10
Benzo(a)pyrene	0.036	J	mg/kg	0.077	0.0092	10
Benzo(ghi)perylene	0.035	J	mg/kg	0.077	0.0065	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**188**	Q	23-120
2-Fluorobiphenyl	92		30-120
4-Terphenyl-d14	107		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-09
Client ID: PB126-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 13:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/05/21 20:10
Analyst: DV
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0080	0.0014	1
Fluorene	0.0011	J	mg/kg	0.0080	0.00096	1
Phenanthrene	0.0016	J	mg/kg	0.0080	0.00068	1
Anthracene	ND		mg/kg	0.0080	0.00064	1
Pyrene	ND		mg/kg	0.0080	0.00056	1
Benzo(a)anthracene	ND		mg/kg	0.0080	0.00076	1
Chrysene	ND		mg/kg	0.0080	0.00060	1
Benzo(b)fluoranthene	ND		mg/kg	0.0080	0.00076	1
Benzo(a)pyrene	ND		mg/kg	0.0080	0.00096	1
Benzo(ghi)perylene	ND		mg/kg	0.0080	0.00068	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**123**	Q	23-120
2-Fluorobiphenyl	101		30-120
4-Terphenyl-d14	**136**	Q	18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-10
Client ID: PB126-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 13:35
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/05/21 20:26
Analyst: DV
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0079	0.0014	1
Fluorene	0.0046	J	mg/kg	0.0079	0.00095	1
Phenanthrene	0.019		mg/kg	0.0079	0.00067	1
Anthracene	0.0044	J	mg/kg	0.0079	0.00063	1
Pyrene	0.016		mg/kg	0.0079	0.00056	1
Benzo(a)anthracene	0.0073	J	mg/kg	0.0079	0.00075	1
Chrysene	0.0040	J	mg/kg	0.0079	0.00059	1
Benzo(b)fluoranthene	0.0045	J	mg/kg	0.0079	0.00075	1
Benzo(a)pyrene	0.0028	J	mg/kg	0.0079	0.00095	1
Benzo(ghi)perylene	0.00079	J	mg/kg	0.0079	0.00067	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	62		23-120
2-Fluorobiphenyl	51		30-120
4-Terphenyl-d14	71		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-11
Client ID: PB126-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 14:05
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/05/21 20:43
Analyst: DV
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0080	0.0014	1
Fluorene	ND		mg/kg	0.0080	0.00096	1
Phenanthrene	0.0017	J	mg/kg	0.0080	0.00068	1
Anthracene	ND		mg/kg	0.0080	0.00064	1
Pyrene	0.0013	J	mg/kg	0.0080	0.00056	1
Benzo(a)anthracene	0.00088	J	mg/kg	0.0080	0.00076	1
Chrysene	ND		mg/kg	0.0080	0.00060	1
Benzo(b)fluoranthene	ND		mg/kg	0.0080	0.00076	1
Benzo(a)pyrene	ND		mg/kg	0.0080	0.00096	1
Benzo(ghi)perylene	ND		mg/kg	0.0080	0.00068	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	119		23-120
2-Fluorobiphenyl	100		30-120
4-Terphenyl-d14	**127**	Q	18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-12
Client ID: PB126-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 14:15
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 15:02
Analyst: JJW
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.0014	J	mg/kg	0.0079	0.0014	1
Fluorene	ND		mg/kg	0.0079	0.00095	1
Phenanthrene	0.0017	J	mg/kg	0.0079	0.00067	1
Anthracene	ND		mg/kg	0.0079	0.00063	1
Pyrene	0.0020	J	mg/kg	0.0079	0.00055	1
Benzo(a)anthracene	0.0013	J	mg/kg	0.0079	0.00075	1
Chrysene	0.00079	J	mg/kg	0.0079	0.00059	1
Benzo(b)fluoranthene	ND		mg/kg	0.0079	0.00075	1
Benzo(a)pyrene	ND		mg/kg	0.0079	0.00095	1
Benzo(ghi)perylene	ND		mg/kg	0.0079	0.00067	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	93		30-120
4-Terphenyl-d14	114		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-13
Client ID: PB126-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 14:20
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 15:18
Analyst: JJW
Percent Solids: 77%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.044		mg/kg	0.0085	0.0015	1
Fluorene	0.013		mg/kg	0.0085	0.0010	1
Phenanthrene	0.076		mg/kg	0.0085	0.00072	1
Anthracene	0.023		mg/kg	0.0085	0.00068	1
Pyrene	0.072		mg/kg	0.0085	0.00060	1
Benzo(a)anthracene	0.044		mg/kg	0.0085	0.00081	1
Chrysene	0.037		mg/kg	0.0085	0.00064	1
Benzo(b)fluoranthene	0.044		mg/kg	0.0085	0.00081	1
Benzo(a)pyrene	0.033		mg/kg	0.0085	0.0010	1
Benzo(ghi)perylene	0.014		mg/kg	0.0085	0.00072	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	106		23-120
2-Fluorobiphenyl	93		30-120
4-Terphenyl-d14	108		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-14 D
Client ID: PB126-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 14:30
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 15:35
Analyst: JJW
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	1.4		mg/kg	0.039	0.0070	5
Fluorene	1.7		mg/kg	0.039	0.0046	5
Phenanthrene	1.9		mg/kg	0.039	0.0033	5
Anthracene	ND		mg/kg	0.039	0.0031	5
Pyrene	0.17		mg/kg	0.039	0.0027	5
Benzo(a)anthracene	0.062		mg/kg	0.039	0.0037	5
Chrysene	0.10		mg/kg	0.039	0.0029	5
Benzo(b)fluoranthene	0.10		mg/kg	0.039	0.0037	5
Benzo(a)pyrene	0.062		mg/kg	0.039	0.0046	5
Benzo(ghi)perylene	0.087		mg/kg	0.039	0.0033	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**339**	Q	23-120
2-Fluorobiphenyl	86		30-120
4-Terphenyl-d14	112		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-15
Client ID: DUP-17
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 00:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 15:51
Analyst: JJW
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.0052	J	mg/kg	0.0082	0.0015	1
Fluorene	0.0037	J	mg/kg	0.0082	0.00098	1
Phenanthrene	0.053		mg/kg	0.0082	0.00070	1
Anthracene	0.014		mg/kg	0.0082	0.00066	1
Pyrene	0.11		mg/kg	0.0082	0.00057	1
Benzo(a)anthracene	0.092		mg/kg	0.0082	0.00078	1
Chrysene	0.080		mg/kg	0.0082	0.00061	1
Benzo(b)fluoranthene	0.11		mg/kg	0.0082	0.00078	1
Benzo(a)pyrene	0.085		mg/kg	0.0082	0.00098	1
Benzo(ghi)perylene	0.045		mg/kg	0.0082	0.00070	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	103		23-120
2-Fluorobiphenyl	99		30-120
4-Terphenyl-d14	114		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-16
Client ID: FB-210730
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 15:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 17:29
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 08/04/21 08:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	0.03	J	ug/l	0.05	0.02	1
Anthracene	0.02	J	ug/l	0.10	0.01	1
Pyrene	0.18		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.12		ug/l	0.05	0.02	1
Chrysene	0.13		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	0.19		ug/l	0.05	0.01	1
Benzo(a)pyrene	0.11		ug/l	0.10	0.02	1
Benzo(ghi)perylene	0.13		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	67		15-120
4-Terphenyl-d14	96		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 08/05/21 19:04
Analyst: DV

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-15 Batch: WG1531206-1					
Naphthalene	ND		mg/kg	0.0066	0.0012
Fluorene	ND		mg/kg	0.0066	0.00080
Phenanthrene	ND		mg/kg	0.0066	0.00056
Anthracene	ND		mg/kg	0.0066	0.00053
Pyrene	ND		mg/kg	0.0066	0.00046
Benzo(a)anthracene	ND		mg/kg	0.0066	0.00063
Chrysene	ND		mg/kg	0.0066	0.00050
Benzo(b)fluoranthene	ND		mg/kg	0.0066	0.00063
Benzo(a)pyrene	ND		mg/kg	0.0066	0.00080
Benzo(ghi)perylene	ND		mg/kg	0.0066	0.00056

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	**130**	Q	25-120
Phenol-d6	**147**	Q	10-120
Nitrobenzene-d5	**142**	Q	23-120
2-Fluorobiphenyl	118		30-120
2,4,6-Tribromophenol	**201**	Q	10-136
4-Terphenyl-d14	**152**	Q	18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 08/04/21 14:56
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 08/04/21 04:40

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 16 Batch: WG1531233-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	73		21-120
Phenol-d6	64		10-120
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	86		15-120
2,4,6-Tribromophenol	86		10-120
4-Terphenyl-d14	89		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-15 Batch: WG1531206-2 WG1531206-3								
Naphthalene	61		57		40-140	7		50
Fluorene	62		57		40-140	8		50
Phenanthrene	60		55		40-140	9		50
Anthracene	64		59		40-140	8		50
Pyrene	62		57		35-142	8		50
Benzo(a)anthracene	64		58		40-140	10		50
Chrysene	56		52		40-140	7		50
Benzo(b)fluoranthene	62		55		40-140	12		50
Benzo(a)pyrene	66		60		40-140	10		50
Benzo(ghi)perylene	59		54		40-140	9		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	66		62		25-120
Phenol-d6	68		64		10-120
Nitrobenzene-d5	70		65		23-120
2-Fluorobiphenyl	61		57		30-120
2,4,6-Tribromophenol	70		64		10-136
4-Terphenyl-d14	63		59		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2141062

Report Date: 08/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 16 Batch: WG1531233-2 WG1531233-3								
Naphthalene	79		76		40-140	4		40
Fluorene	83		80		40-140	4		40
Phenanthrene	82		77		40-140	6		40
Anthracene	84		78		40-140	7		40
Pyrene	85		77		26-127	10		40
Benzo(a)anthracene	78		74		40-140	5		40
Chrysene	83		78		40-140	6		40
Benzo(b)fluoranthene	85		79		40-140	7		40
Benzo(a)pyrene	88		81		40-140	8		40
Benzo(ghi)perylene	82		75		40-140	9		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	71		70		21-120
Phenol-d6	58		59		10-120
Nitrobenzene-d5	88		87		23-120
2-Fluorobiphenyl	81		80		15-120
2,4,6-Tribromophenol	88		84		10-120
4-Terphenyl-d14	91		85		41-149

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-01
Client ID: PB882-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/30/21 08:40
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.3		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-02
Client ID: PB882-17-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 09:00
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.4		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-03
Client ID: PB882-19-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 09:30
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.6		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-04
Client ID: PB882-18-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 10:30
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.1		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-05
Client ID: PB882-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 11:10
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.6		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-06
Client ID: PB882-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 11:20
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.5		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-07
Client ID: PB882-20-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 11:30
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.6		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-08
Client ID: PB882-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 11:40
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.9		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-09
Client ID: PB126-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 13:00
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.5		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-10
Client ID: PB126-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/30/21 13:35
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.7		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-11
Client ID: PB126-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/30/21 14:05
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.5		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-12
Client ID: PB126-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/30/21 14:15
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.5		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-13
Client ID: PB126-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 14:20
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	77.0		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-14
Client ID: PB126-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 14:30
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.7		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-15
Client ID: DUP-17
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 00:00
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.1		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2141062

Report Date: 08/11/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-15 QC Batch ID: WG1530109-1 QC Sample: L2141062-01 Client ID: PB882-15-SS01						
Solids, Total	81.3	81.3	%	0		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2141062
Report Date: 08/11/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2141062-01A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2141062-01B	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-01C	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-01D	Plastic 120ml unpreserved	A	NA		5.4	Y	Absent		TS(7)
L2141062-01E	Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		SUB-TOTAL LEAD()
L2141062-01F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-8270SIM(14)
L2141062-02A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2141062-02B	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-02C	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-02D	Plastic 120ml unpreserved	A	NA		5.4	Y	Absent		TS(7)
L2141062-02E	Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		SUB-TOTAL LEAD()
L2141062-02F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-8270SIM(14)
L2141062-03A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2141062-03B	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-03C	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-03D	Plastic 120ml unpreserved	A	NA		5.4	Y	Absent		TS(7)
L2141062-03E	Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		SUB-TOTAL LEAD()
L2141062-03F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-8270SIM(14)
L2141062-04A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2141062-04B	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-04C	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-04D	Plastic 120ml unpreserved	A	NA		5.4	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2141062-04E	Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		SUB-TOTAL LEAD()
L2141062-04F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-8270SIM(14)
L2141062-05A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2141062-05B	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-05C	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-05D	Plastic 120ml unpreserved	A	NA		5.4	Y	Absent		TS(7)
L2141062-05E	Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		SUB-TOTAL LEAD()
L2141062-05F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-8270SIM(14)
L2141062-06A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2141062-06B	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-06C	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-06D	Plastic 120ml unpreserved	A	NA		5.4	Y	Absent		TS(7)
L2141062-06E	Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		SUB-TOTAL LEAD()
L2141062-06F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-8270SIM(14)
L2141062-07A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2141062-07B	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-07C	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-07D	Plastic 120ml unpreserved	A	NA		5.4	Y	Absent		TS(7)
L2141062-07E	Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		SUB-TOTAL LEAD()
L2141062-07F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-8270SIM(14)
L2141062-08A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2141062-08B	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-08C	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-08D	Plastic 120ml unpreserved	A	NA		5.4	Y	Absent		TS(7)
L2141062-08E	Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		SUB-TOTAL LEAD()
L2141062-08F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-8270SIM(14)
L2141062-09A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2141062-09B	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2141062
Report Date: 08/11/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2141062-09C	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-09D	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2141062-09E	Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2141062-09F	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)
L2141062-10A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2141062-10B	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-10C	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-10D	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2141062-10E	Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2141062-10F	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)
L2141062-11A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2141062-11B	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-11C	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-11D	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2141062-11E	Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2141062-11F	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)
L2141062-12A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2141062-12B	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-12C	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-12D	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2141062-12E	Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2141062-12F	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)
L2141062-13A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2141062-13B	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-13C	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-13D	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2141062-13E	Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2141062-13F	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2141062
Report Date: 08/11/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2141062-14A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2141062-14B	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-14C	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-14D	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2141062-14E	Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2141062-14F	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)
L2141062-15A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2141062-15B	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-15C	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-15D	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2141062-15E	Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2141062-15F	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)
L2141062-16A	Vial HCl preserved	A	NA		5.4	Y	Absent		PA-8260(14)
L2141062-16B	Vial HCl preserved	A	NA		5.4	Y	Absent		PA-8260(14)
L2141062-16C	Vial HCl preserved	A	NA		5.4	Y	Absent		PA-8260(14)
L2141062-16D	Vial Na2S2O3 preserved	A	NA		5.4	Y	Absent		8011(14)
L2141062-16E	Vial Na2S2O3 preserved	A	NA		5.4	Y	Absent		8011(14)
L2141062-16F	Plastic 250ml HNO3 preserved	A	<2	<2	5.4	Y	Absent		SUB-TOTAL LEAD()
L2141062-16G	Amber 250ml unpreserved	A	7	7	5.4	Y	Absent		PA-8270SIM-LVI(7)
L2141062-16H	Amber 250ml unpreserved	A	7	7	5.4	Y	Absent		PA-8270SIM-LVI(7)
L2141062-17A	Vial HCl preserved	A	NA		5.4	Y	Absent		PA-8260(14)
L2141062-17B	Vial HCl preserved	A	NA		5.4	Y	Absent		PA-8260(14)
L2141062-17C	Vial Na2S2O3 preserved	A	NA		5.4	Y	Absent		8011(14)
L2141062-17D	Vial Na2S2O3 preserved	A	NA		5.4	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2141062
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GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

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Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2141062
Project Number:	200.00135.005.03	**Report Date:**	08/11/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/31/21

ALPHA Job #: L 2141062

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist		Sample Specific Comments	Total # Bottles
41062-01	PB882-15-5501	7/30	0840	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-02	PB882-17-5501		0900			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-03	PB882-19-5501		0930			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-04	PB882-18-5501		1030			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-05	PB882-10-5501		1110			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-06	PB882-14-5501		1120			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-07	PB882-20-5501		1130			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-08	PB882-16-5501		1140			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-09	PB126-01-5501		1300			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-10	PB126-02-5501	V	1335	V	V	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
	Container Type	G	G	G	-	-	-	-	-	-	-	-	-						
	Preservative	F	A	A	-	-	-	-	-	-	-	-	-						

Relinquished By:	Date/Time	Received By:	Date/Time
	7/30 1515		7-30 1515
	7/30 1915		7/31/21 19:48
	7/31/21		7/31/21 02:35

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(HW) (rev. 9-JAN-13)

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/31/21

ALPHA Job #: L2141062

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.005.03

Project Manager: William Schmidt

ALPHA Quote #: 13161

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client Info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist		Sample Specific Comments	TOTAL # BOTTLES
41062-11	PB126-03-5501	7/30	1405	S	JS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		8
-12	PB126-04-5501		1415	S		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-13	PB126-05-5501		1420	S		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-14	PB126-06-5501		1430	S		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-15	DUP-17		-	S		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-16	FB-210730		1500	W		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-17	TB-210730		-	W		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
Container Type		G	G	G		-	-	-	-	-	-	-	-	-	-	-	-		
Preservative		F	A	A		-	-	-	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	7/30 1515	Tom Clark AAL	7-30 1515
Tom Clark AAL	7-30 21 19:15		7/31/21 18:0
	7/31/21	AAL	7/30/21 2200
AAL	7/31/21 0230		7/31/21 02:35

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-N2) (rev. 3-JAN-12)

PADEP Short List Analytical List:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

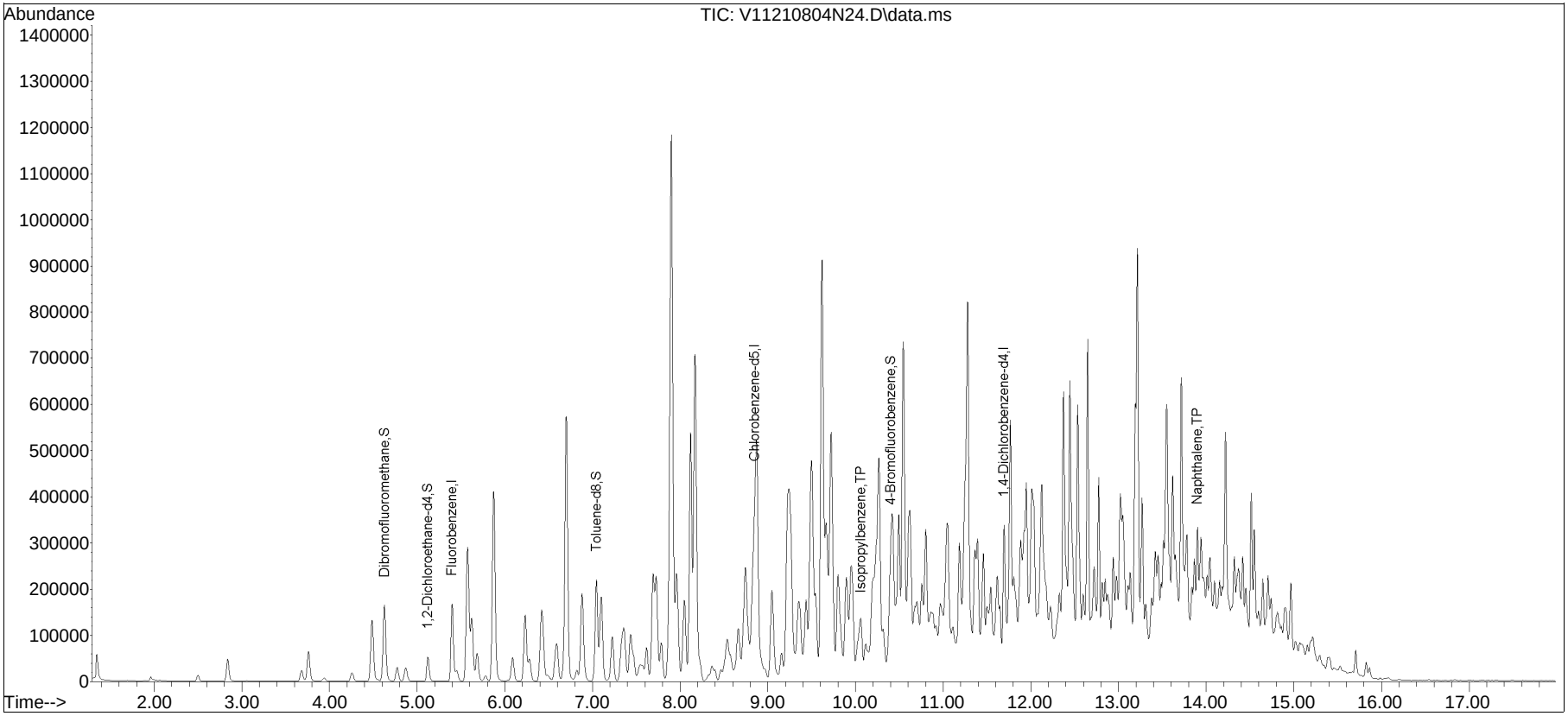
6. Waste Oil – benzene, toluene, ethyl benzene, cumene, naphthalene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, lead

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210804N\
Data File : V11210804N24.D
Acq On : 05 Aug 2021 05:19 am
Operator : VOA111:JC
Sample : L2141062-05D,31H,6.66,5,0.025,,A
Misc : WG1531906,ICAL18049
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 05 07:28:44 2021
Quant Method : I:\VOLATILES\VOA111\2021\210804N\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list04N\V11210804N01.D•

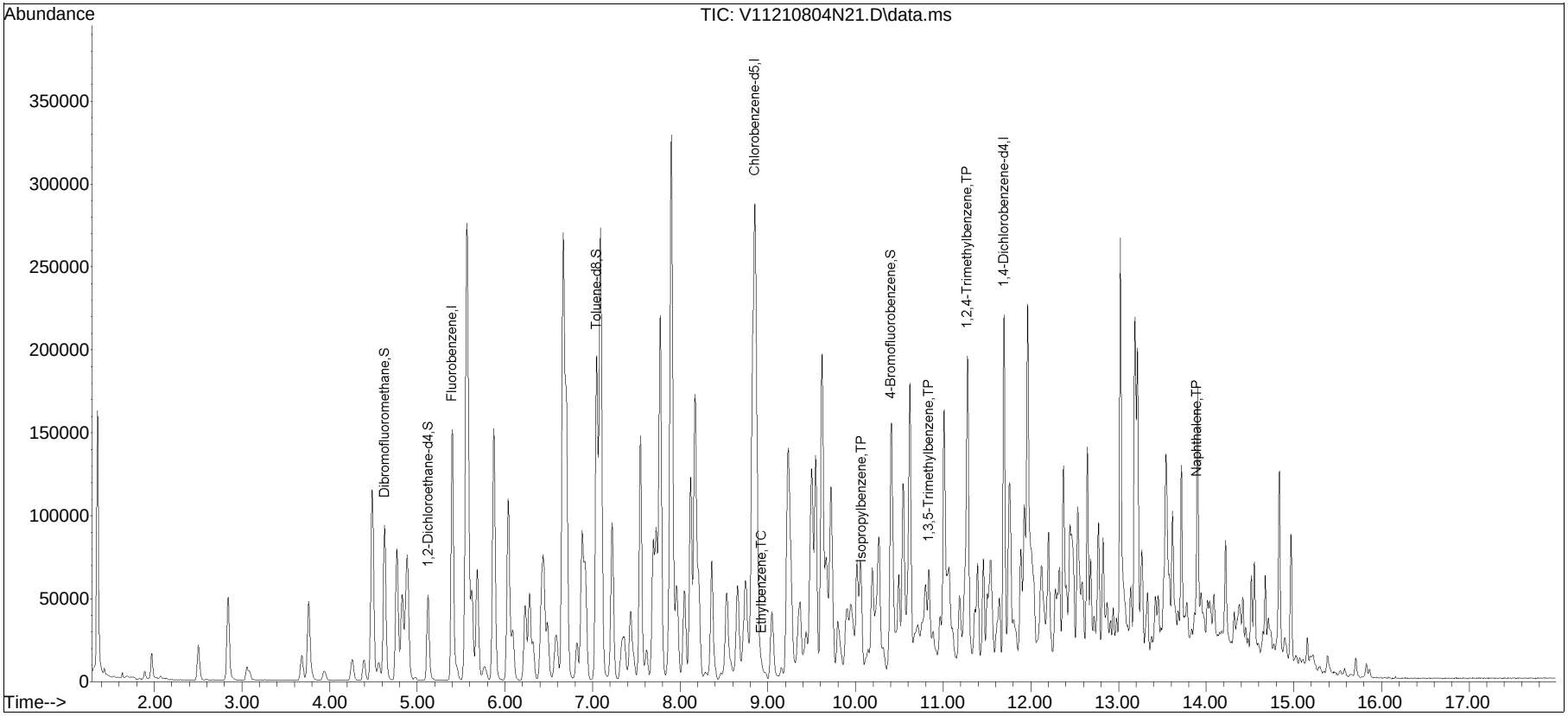


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210804N\
Data File : V11210804N21.D
Acq On : 05 Aug 2021 04:04 am
Operator : VOA111:JC
Sample : L2141062-06,31,6.12,5,,B
Misc : WG1531904,ICAL18049
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Aug 05 06:27:54 2021
Quant Method : I:\VOLATILES\VOA111\2021\210804N\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list04N\V11210804N01.D•

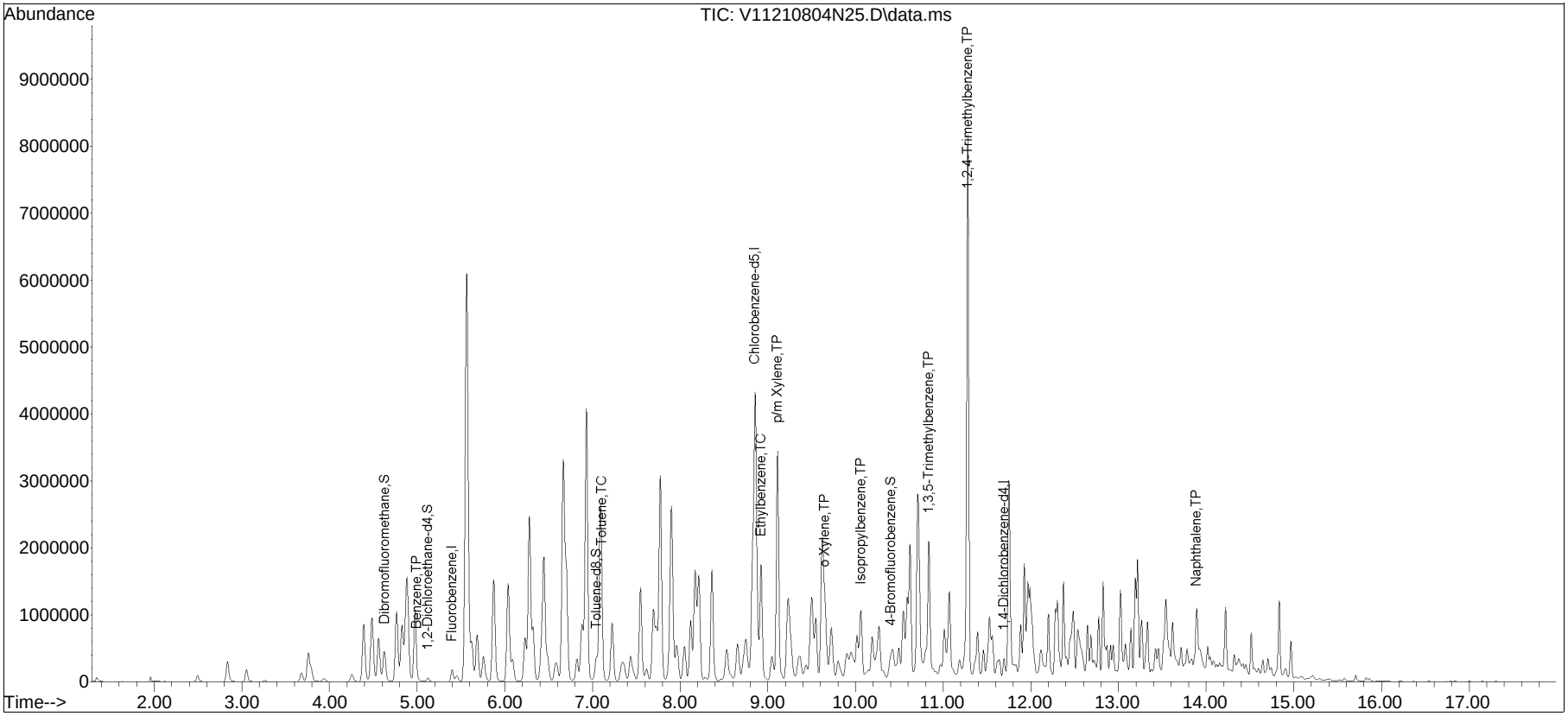


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210804N\
Data File : V11210804N25.D
Acq On : 05 Aug 2021 05:45 am
Operator : VOA111:JC
Sample : L2141062-08D,31H,6.92,5,0.050,,A
Misc : WG1531906,ICAL18049
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Aug 05 06:28:10 2021
Quant Method : I:\VOLATILES\VOA111\2021\210804N\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list04N\V11210804N01.D•

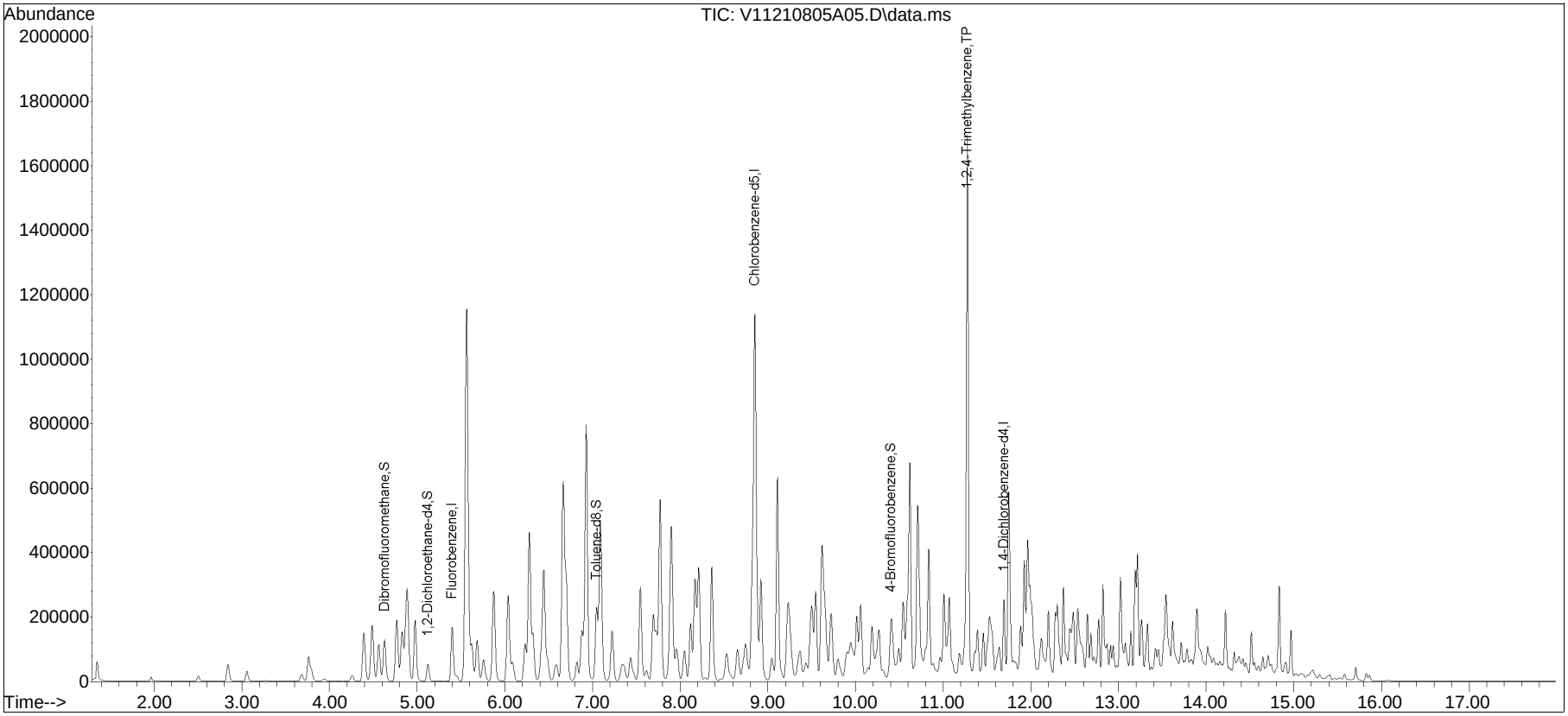


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210805A\
Data File : V11210805A05.D
Acq On : 05 Aug 2021 09:46 am
Operator : VOA111:AJK
Sample : L2141062-08D2,31H,6.92,5,0.010,,A
Misc : WG1531906,ICAL18049
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 05 19:55:23 2021
Quant Method : I:\VOLATILES\VOA111\2021\210805A\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-1,2,4-TMB - 1,2,4-Trimethylbenzene only05A01.D•

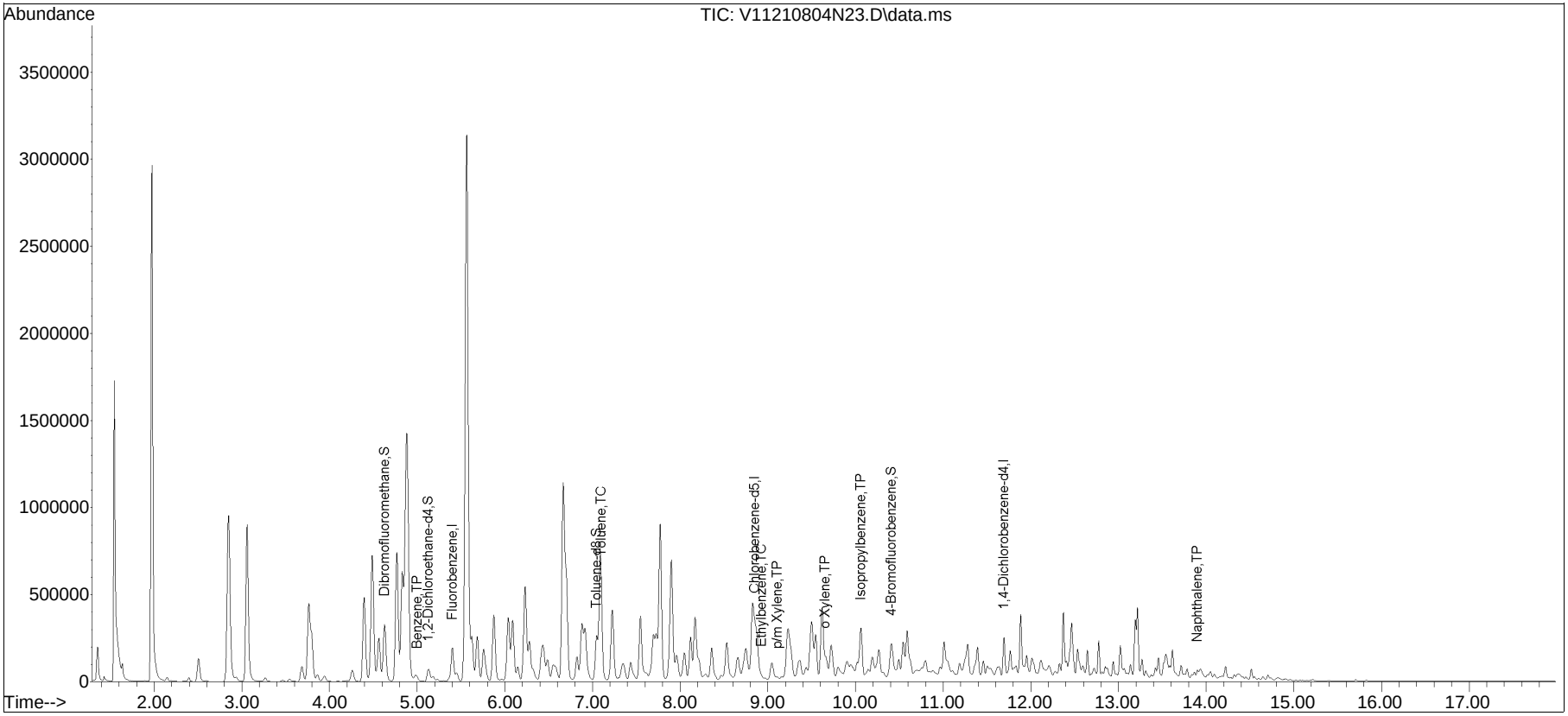


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210804N\
Data File : V11210804N23.D
Acq On : 05 Aug 2021 04:53 am
Operator : VOA111:JC
Sample : L2141062-09,31,6.15,5,,B
Misc : WG1531904,ICAL18049
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 05 07:28:32 2021
Quant Method : I:\VOLATILES\VOA111\2021\210804N\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list04N\V11210804N01.D•

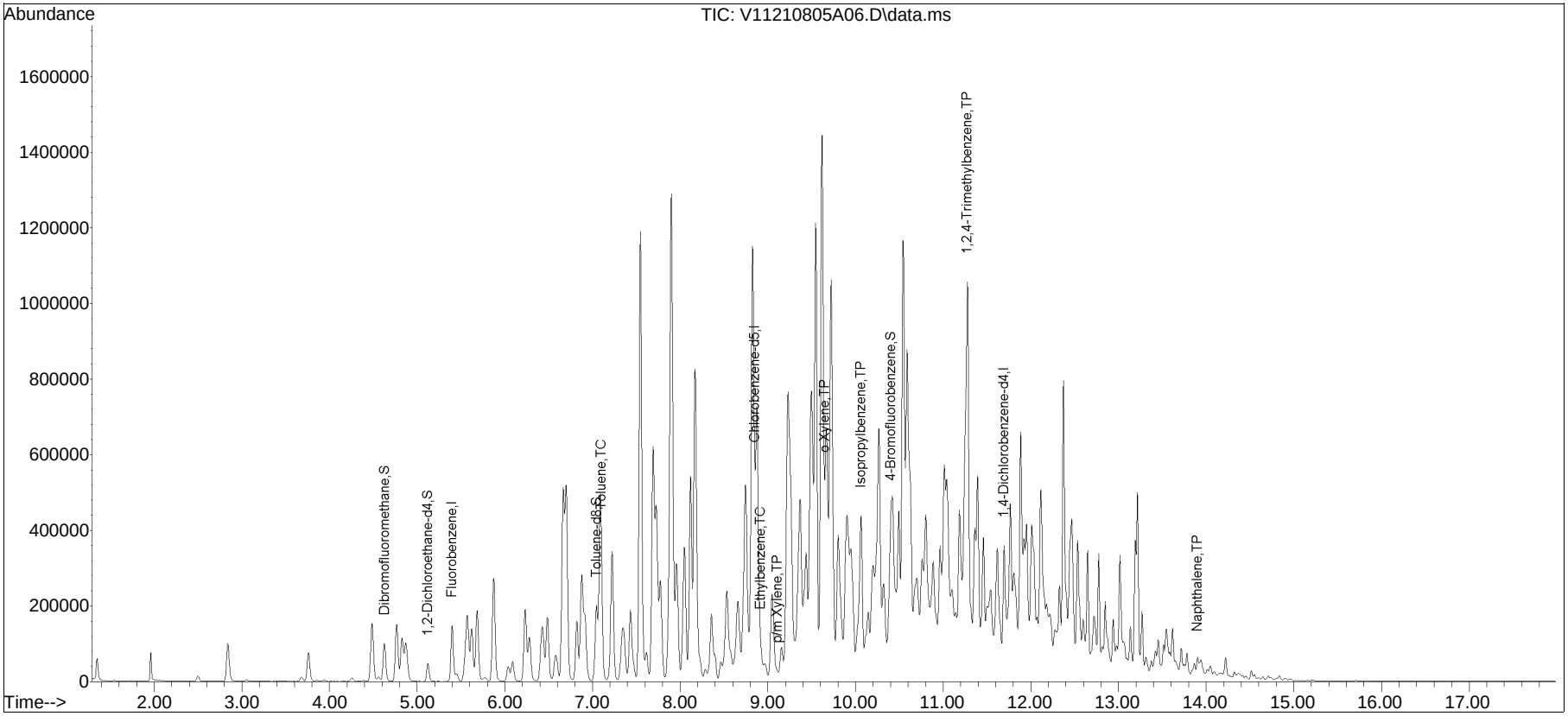


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210805A\
Data File : V11210805A06.D
Acq On : 05 Aug 2021 10:12 am
Operator : VOA111:AJK
Sample : L2141062-10D,31H,6.16,5,0.025,,A
Misc : WG1531906,ICAL18049
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 05 19:59:43 2021
Quant Method : I:\VOLATILES\VOA111\2021\210805A\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list05A\V11210805A01.D•

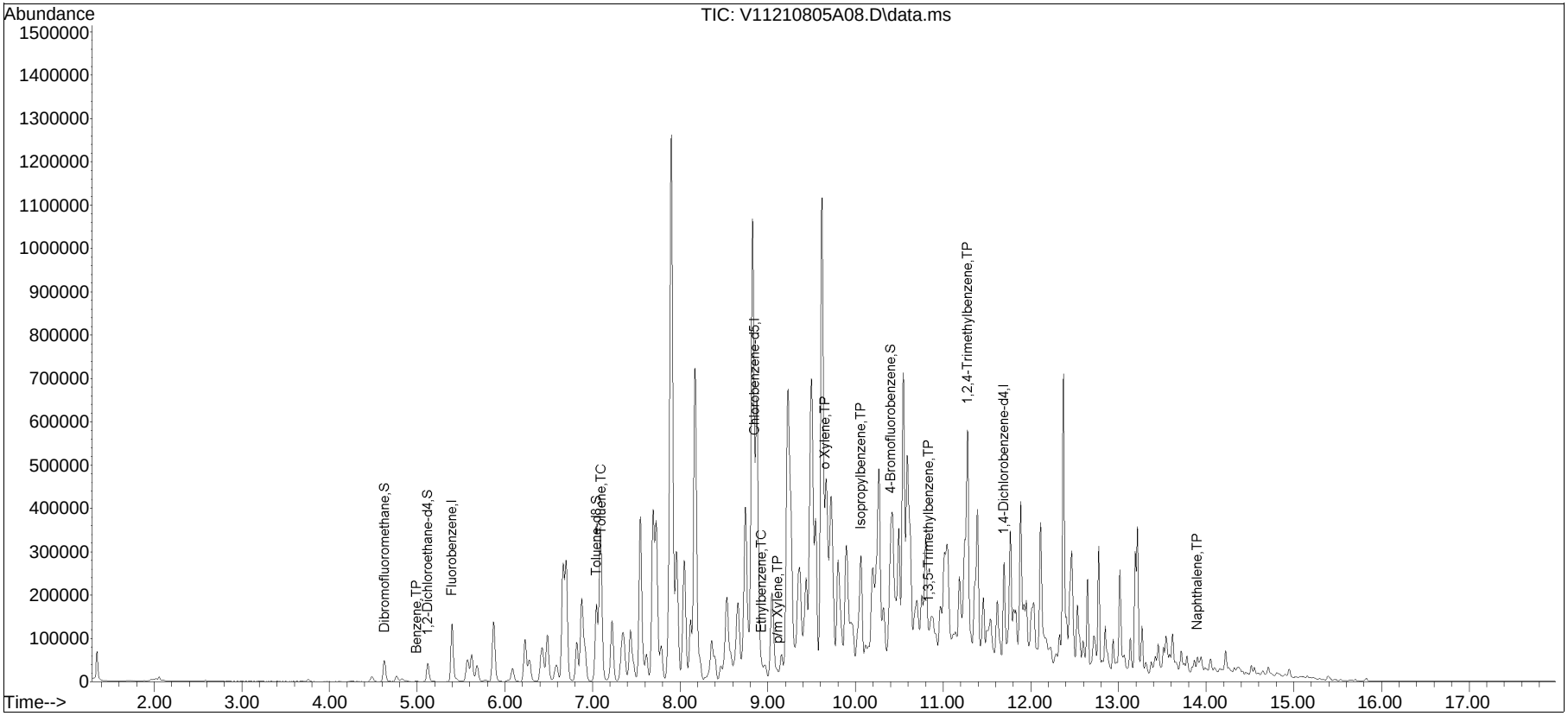


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210805A\
Data File : V11210805A08.D
Acq On : 05 Aug 2021 11:04 am
Operator : VOA111:AJK
Sample : L2141062-13D,31H,5.13,5,0.050,,A
Misc : WG1531906,ICAL18049
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 05 19:55:39 2021
Quant Method : I:\VOLATILES\VOA111\2021\210805A\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list05A\V11210805A01.D•

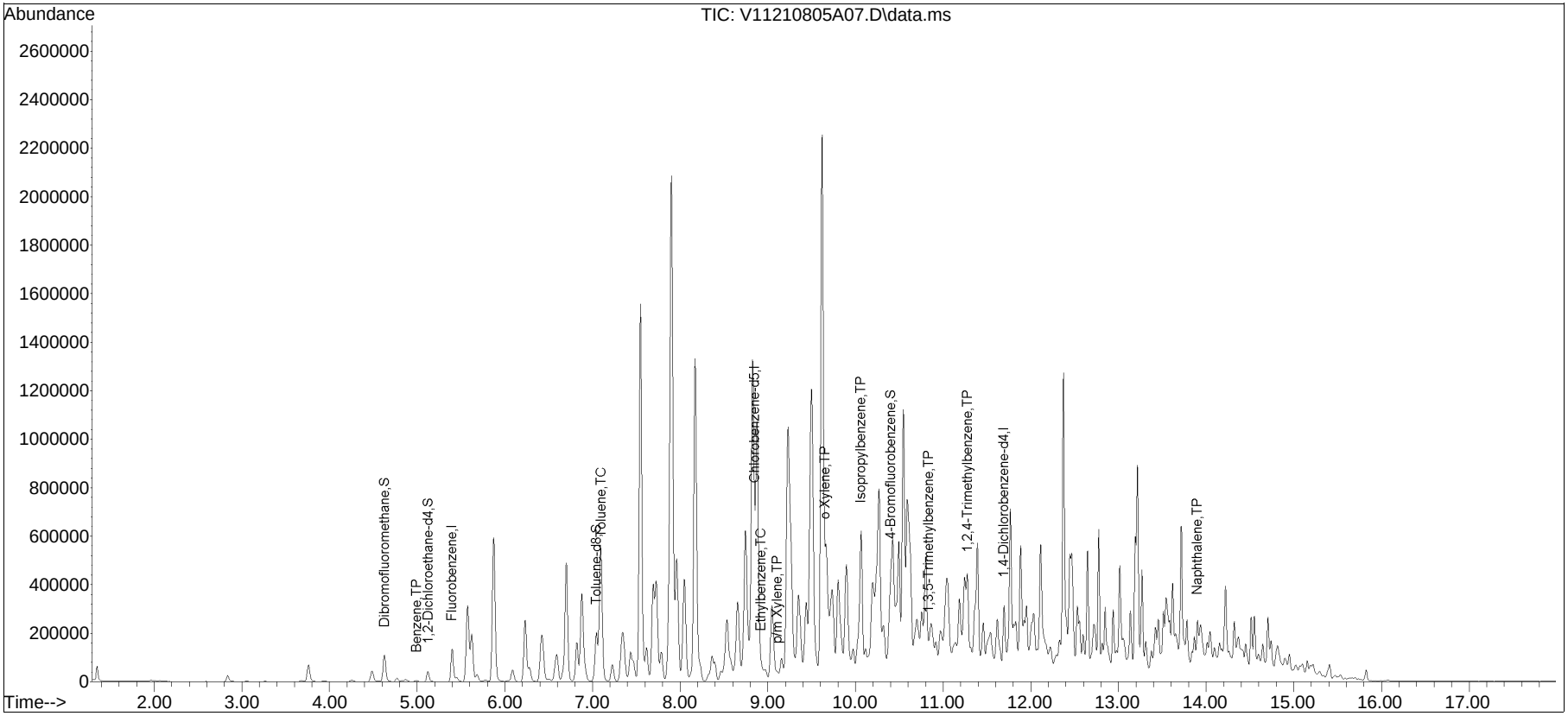


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210805A\
Data File : V11210805A07.D
Acq On : 05 Aug 2021 10:38 am
Operator : VOA111:AJK
Sample : L2141062-14D,31H,2.83,5,0.025,,A
Misc : WG1531906,ICAL18049
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 05 19:55:33 2021
Quant Method : I:\VOLATILES\VOA111\2021\210805A\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list05A\V11210805A01.D•



SGS

Dayton, NJ

08/10/21

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Alpha Analytical Laboratories, Inc.

Alpha Analytical, PA

L2141062

SGS Job Number: JD29267

Sampling Date: 07/30/21

Report to:

Alpha Analytical Laboratories, Inc.
Eight Walkup Drive
Westborough, MA 01581
subreports@alphalab.com; brao@alphalab.com

ATTN: Ben Rao

Total number of pages in report: **58**

NELAP ACCREDITED TNI LABORATORY

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Mike Earp

Client Service contact: Michelle Jenkins 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

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Section 3: Sample Results **7**
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SGS North America Inc.

Sample Summary

Alpha Analytical Laboratories, Inc.

Job No: JD29267

Alpha Analytical, PA
Project No: L2141062

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JD29267-1	07/30/21	08:40		08/03/21	SO	Soil	PB882-15-SS01
JD29267-2	07/30/21	09:00		08/03/21	SO	Soil	PB882-17-SS01
JD29267-3	07/30/21	09:30		08/03/21	SO	Soil	PB882-19-SS01
JD29267-4	07/30/21	10:30		08/03/21	SO	Soil	PB882-18-SS01
JD29267-5	07/30/21	11:10		08/03/21	SO	Soil	PB882-10-SS01
JD29267-6	07/30/21	11:20		08/03/21	SO	Soil	PB882-14-SS01
JD29267-7	07/30/21	11:30		08/03/21	SO	Soil	PB882-20-SS01
JD29267-8	07/30/21	11:40		08/03/21	SO	Soil	PB882-16-SS01
JD29267-9	07/30/21	13:00		08/03/21	SO	Soil	PB126-01-SS01
JD29267-10	07/30/21	13:35		08/03/21	SO	Soil	PB126-02-SS01
JD29267-11	07/30/21	14:05		08/03/21	SO	Soil	PB126-03-SS01
JD29267-12	07/30/21	14:15		08/03/21	SO	Soil	PB126-04-SS01
JD29267-13	07/30/21	14:20		08/03/21	SO	Soil	PB126-05-SS01

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SGS North America Inc.

Sample Summary
(continued)

Alpha Analytical Laboratories, Inc.

Job No: JD29267

Alpha Analytical, PA
Project No: L2141062

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JD29267-14	07/30/21	14:30		08/03/21	SO	Soil	PB126-06-SS01
JD29267-15	07/30/21	00:00		08/03/21	SO	Soil	DUP-17
JD29267-16	07/30/21	15:00		08/03/21	AQ	Field Blank Soil	FB-210730

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Summary of Hits

Job Number: JD29267
Account: Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA
Collected: 07/30/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JD29267-1	**PB882-15-SS01**					
Lead		19.4	2.5		mg/kg	SW846 6010D
JD29267-2	**PB882-17-SS01**					
Lead		3.9	2.3		mg/kg	SW846 6010D
JD29267-3	**PB882-19-SS01**					
Lead		10.0	2.6		mg/kg	SW846 6010D
JD29267-4	**PB882-18-SS01**					
Lead		11.3	2.4		mg/kg	SW846 6010D
JD29267-5	**PB882-10-SS01**					
No hits reported in this sample.						
JD29267-6	**PB882-14-SS01**					
Lead		7.0	2.5		mg/kg	SW846 6010D
JD29267-7	**PB882-20-SS01**					
Lead		73.6	2.5		mg/kg	SW846 6010D
JD29267-8	**PB882-16-SS01**					
Lead		11.3	2.3		mg/kg	SW846 6010D
JD29267-9	**PB126-01-SS01**					
Lead		7.9	1.6		mg/kg	SW846 6010D
JD29267-10	**PB126-02-SS01**					
Lead		9.4	2.4		mg/kg	SW846 6010D
JD29267-11	**PB126-03-SS01**					
Lead		7.4	2.4		mg/kg	SW846 6010D

Summary of Hits

Job Number: JD29267
Account: Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA
Collected: 07/30/21

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JD29267-12	**PB126-04-SS01**					
Lead		15.8	2.5		mg/kg	SW846 6010D
JD29267-13	**PB126-05-SS01**					
Lead		1040	2.7		mg/kg	SW846 6010D
JD29267-14	**PB126-06-SS01**					
Lead		156	2.4		mg/kg	SW846 6010D
JD29267-15	**DUP-17**					
Lead		148	2.5		mg/kg	SW846 6010D
JD29267-16	**FB-210730**					

No hits reported in this sample.

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB882-15-SS01		
Lab Sample ID:	JD29267-1	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	81.3
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	19.4	2.5	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB882-17-SS01		
Lab Sample ID:	JD29267-2	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	90.4
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	3.9	2.3	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB882-19-SS01		
Lab Sample ID:	JD29267-3	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	79.6
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	10.0	2.6	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB882-18-SS01		
Lab Sample ID:	JD29267-4	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	82.1
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	11.3	2.4	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB882-10-SS01		
Lab Sample ID:	JD29267-5	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	89.6
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	<12	12	mg/kg	5	08/06/21	08/09/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50959
(2) Prep QC Batch: MP27913

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB882-14-SS01		
Lab Sample ID:	JD29267-6	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	81.5
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	7.0	2.5	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB882-20-SS01		
Lab Sample ID:	JD29267-7	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	82.6
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	73.6	2.5	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB882-16-SS01		
Lab Sample ID:	JD29267-8	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	85.9
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	11.3	2.3	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB126-01-SS01		
Lab Sample ID:	JD29267-9	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	82.5
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	7.9	1.6	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB126-02-SS01		
Lab Sample ID:	JD29267-10	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	82.7
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	9.4	2.4	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB126-03-SS01		
Lab Sample ID:	JD29267-11	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	82.5
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	7.4	2.4	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB126-04-SS01		
Lab Sample ID:	JD29267-12	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	83.5
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	15.8	2.5	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB126-05-SS01		
Lab Sample ID:	JD29267-13	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	77.0
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	1040	2.7	mg/kg	1	08/09/21	08/10/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50958
(2) Prep QC Batch: MP27946

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB126-06-SS01		
Lab Sample ID:	JD29267-14	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	84.7
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	156	2.4	mg/kg	1	08/09/21	08/10/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50958
(2) Prep QC Batch: MP27946

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	DUP-17		
Lab Sample ID:	JD29267-15	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	81.1
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	148	2.5	mg/kg	1	08/09/21	08/10/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50958
(2) Prep QC Batch: MP27946

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	FB-210730		
Lab Sample ID:	JD29267-16	**Date Sampled:**	07/30/21
Matrix:	AQ - Field Blank Soil	**Date Received:**	08/03/21
		Percent Solids:	n/a
Project:	Alpha Analytical, PA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	<3.0	3.0	ug/l	1	08/05/21	08/05/21	ND	SW846 6010D [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA50946
(2) Prep QC Batch: MP27879

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

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FB

Subcontract Chain of Custody

SGS- North America
2235 US-130
Dayton, NJ 08810

JD29267

Alpha Job Number
L2141062

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 201.812.2633 Email: brao@alphalab.com	Project Location: PA Project Manager: Ben Rao **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2141062

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
1	PB882-15-SS01	07-30-21 08:40	SOIL	Total Lead	E61 T3 A36
2	PB882-17-SS01	07-30-21 09:00	SOIL	Total Lead	
3	PB882-19-SS01	07-30-21 09:30	SOIL	Total Lead	
4	PB882-18-SS01	07-30-21 10:30	SOIL	Total Lead	
5	PB882-10-SS01	07-30-21 11:10	SOIL	Total Lead	
6	PB882-14-SS01	07-30-21 11:20	SOIL	Total Lead	
7	PB882-20-SS01	07-30-21 11:30	SOIL	Total Lead	
8	PB882-16-SS01	07-30-21 11:40	SOIL	Total Lead	
9	PB126-01-SS01	07-30-21 13:00	SOIL	Total Lead	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
	Kim L. Bailey	8/2/21	Paul Mazzella	8/2/21 2012
	Paul Mazzella	8/2/21 2235		8/3/21 8:20

Form No: AL_subcoc

3.0, 4.0

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Subcontract Chain of Custody

SGS- North America
2235 US-130
Dayton, NJ 08810

JD29267

Alpha Job Number
L2141062

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 201.812.2633 Email: brao@alphalab.com	Project Location: PA Project Manager: Ben Rao **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2141062

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
10	PB126-02-SS01	07-30-21 13:35	SOIL	Total Lead	
11	PB126-03-SS01	07-30-21 14:05	SOIL	Total Lead	
12	PB126-04-SS01	07-30-21 14:15	SOIL	Total Lead	
13	PB126-05-SS01	07-30-21 14:20	SOIL	Total Lead	
14	PB126-06-SS01	07-30-21 14:30	SOIL	Total Lead	
15	DUP-17	07-30-21 00:00	SOIL	Total Lead	
16	FB-210730	07-30-21 15:00	WATER	Total Lead	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
	Kim L. Bailey	8/2/21		
	Paul Mazzella	8/2/21 2235	Paul Mazzella	8/2/21 2010
Form No: AL_subcoc				8/3/21 8:20

SGS Sample Receipt Summary

Job Number: JD29267 **Client:** ALPHA ANALYTICAL **Project:** L2141062

Date / Time Received: 8/3/2021 8:20:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.0); Cooler 2: (4.0);

Cooler Temps (Corrected) °C: Cooler 1: (3.0); Cooler 2: (4.0);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:			
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	2		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 212820 pH 12+: 203117A Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

JD29267: Chain of Custody
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Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/05/21

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	17	46		
Antimony	6.0	1.7	4.7		
Arsenic	3.0	1.3	2.8		
Barium	200	.8	13		
Beryllium	1.0	.2	.5		
Bismuth	20	2.1	4		
Boron	100	1	63		
Cadmium	3.0	.2	1		
Calcium	5000	6.6	99		
Cerium	100				
Chromium	10	.3	2		
Cobalt	50	.4	2.6		
Copper	10	.8	5.9		
Iron	100	5.3	32		
Lead	3.0	1.1	1.8	0.30	<3.0
Lithium	50	3.7	7.3		
Magnesium	5000	32	140		
Manganese	15	.1	1.4		
Molybdenum	20	.5	3.6		
Nickel	10	.3	1.7		
Phosphorus	50	1.2	18		
Potassium	10000	77	200		
Selenium	10	2	4.9		
Silicon	200	1.3	100		
Silver	10	.9	1.9		
Sodium	10000	23	570		
Strontium	10	.3	1		
Sulfur	50	3	45		
Thallium	10	1.8	1.8		
Tin	10	.8	3.7		
Titanium	10	.5	2.5		
Tungsten	50	2	40		
Vanadium	50	.6	1.8		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/05/21

Metal	RL	IDL	MDL	MB raw	final
Zinc	20	.1	6.9		
Zirconium	10	.3	4.1		

Associated samples MP27879: JD29267-16

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/05/21

Metal	JD29310-7 Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Aluminum	anr				
Antimony	anr				
Arsenic	anr				
Barium	anr				
Beryllium	anr				
Bismuth					
Boron					
Cadmium	anr				
Calcium	anr				
Cerium					
Chromium	anr				
Cobalt	anr				
Copper	anr				
Iron	anr				
Lead	0.0	1990	2000	99.5	75-125
Lithium					
Magnesium	anr				
Manganese	anr				
Molybdenum	anr				
Nickel	anr				
Phosphorus					
Potassium	anr				
Selenium	anr				
Silicon					
Silver	anr				
Sodium	anr				
Strontium					
Sulfur					
Thallium	anr				
Tin					
Titanium					
Tungsten					
Vanadium	anr				

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/05/21

Metal	JD29310-7 Original MS	Spikelot MPSPK2	% Rec	QC Limits
Zinc	anr			
Zirconium				

Associated samples MP27879: JD29267-16

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879 Methods: SW846 6010D
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 08/05/21

Metal	JD29310-7 Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth						
Boron						
Cadmium	anr					
Calcium	anr					
Cerium						
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron	anr					
Lead	0.0	2010	2000	100.5	1.0	20
Lithium						
Magnesium	anr					
Manganese	anr					
Molybdenum	anr					
Nickel	anr					
Phosphorus						
Potassium	anr					
Selenium	anr					
Silicon						
Silver	anr					
Sodium	anr					
Strontium						
Sulfur						
Thallium	anr					
Tin						
Titanium						
Tungsten						
Vanadium	anr					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879 Methods: SW846 6010D
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 08/05/21

Metal	JD29310-7 Original MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Zinc	anr				
Zirconium					

Associated samples MP27879: JD29267-16

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/05/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Bismuth				
Boron				
Cadmium	anr			
Calcium	anr			
Cerium				
Chromium	anr			
Cobalt	anr			
Copper	anr			
Iron	anr			
Lead	2050	2000	102.5	80-120
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Phosphorus				
Potassium	anr			
Selenium	anr			
Silicon				
Silver	anr			
Sodium	anr			
Strontium				
Sulfur				
Thallium	anr			
Tin				
Titanium				
Tungsten				
Vanadium	anr			

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/05/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Zinc	anr			
Zirconium				

Associated samples MP27879: JD29267-16

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/05/21

Metal	JD29310-7 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Bismuth				
Boron				
Cadmium	anr			
Calcium	anr			
Cerium				
Chromium	anr			
Cobalt	anr			
Copper	anr			
Iron	anr			
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Phosphorus				
Potassium	anr			
Selenium	anr			
Silicon				
Silver	anr			
Sodium	anr			
Strontium				
Sulfur				
Thallium	anr			
Tin				
Titanium				
Tungsten				
Vanadium	anr			

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879 Methods: SW846 6010D
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 08/05/21

Metal	JD29310-7 Original SDL 1:5	%DIF	QC Limits
Zinc	anr		
Zirconium			

Associated samples MP27879: JD29267-16

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 08/06/21

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	2.7	8.1		
Antimony	2.0	.22	.41		
Arsenic	2.0	.13	.28		
Barium	20	.1	1.9		
Beryllium	0.20	.02	.08		
Bismuth	2.0	.21	.52		
Boron	10	.1	1.5		
Cadmium	0.50	.02	.07		
Calcium	500	.77	44		
Chromium	1.0	.05	.37		
Cobalt	5.0	.04	.28		
Copper	2.5	.68	.84		
Iron	50	1.5	19		
Lead	2.0	.16	.41	0.010	<2.0
Lithium	5.0	.37	.92		
Magnesium	500	5.4	14		
Manganese	1.5	.01	.41		
Molybdenum	2.0	.05	.32		
Nickel	4.0	.03	.35		
Phosphorus	20	.18	3.3		
Potassium	1000	7.7	32		
Selenium	2.0	.2	.65		
Silicon	20	.13	11		
Silver	0.50	.09	.17		
Sodium	1000	2.3	78		
Strontium	5.0	.04	.18		
Sulfur	10	.41	9.4		
Thallium	1.0	.16	.58		
Tin	20	.09	3.8		
Titanium	1.0	.09	.34		
Tungsten	5.0	.2	1.8		
Vanadium	5.0	.08	.19		
Zinc	5.0	.02	2.3		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/06/21

Metal	RL	IDL	MDL	MB raw	final
Zirconium	2.0	.05	.23		

Associated samples MP27913: JD29267-1, JD29267-2, JD29267-3, JD29267-4, JD29267-5, JD29267-6, JD29267-7, JD29267-8, JD29267-9, JD29267-10, JD29267-11, JD29267-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/06/21

Metal	JD29267-6 Original MS		Spikelot MPSPK2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	anr				
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Lead	7.0	281	245	111.7	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc					
Zirconium					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/06/21

Metal	JD29267-6 Original MS	Spikelot MPSPK2	% Rec	QC Limits

Associated samples MP27913: JD29267-1, JD29267-2, JD29267-3, JD29267-4, JD29267-5, JD29267-6, JD29267-7, JD29267-8, JD29267-9, JD29267-10, JD29267-11, JD29267-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/06/21

Metal	JD29267-6 Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	anr					
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Lead	7.0	275	250	107.0	2.2	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc						
Zirconium						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/06/21

	JD29267-6	Spikelot		MSD	QC
Metal	Original MSD	MPSPK2	% Rec	RPD	Limit

Associated samples MP27913: JD29267-1, JD29267-2, JD29267-3, JD29267-4, JD29267-5, JD29267-6, JD29267-7, JD29267-8, JD29267-9, JD29267-10, JD29267-11, JD29267-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 08/06/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	228	200	114.0	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

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SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 08/06/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Zirconium				

Associated samples MP27913: JD29267-1, JD29267-2, JD29267-3, JD29267-4, JD29267-5, JD29267-6, JD29267-7, JD29267-8, JD29267-9, JD29267-10, JD29267-11, JD29267-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913
Matrix Type: SOLID

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/06/21

Metal	JD29267-6 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	55.0	57.9	5.3	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

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SERIAL DILUTION RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913 Methods: SW846 6010D
Matrix Type: SOLID Units: ug/l

Prep Date: 08/06/21

Metal	JD29267-6 Original SDL 1:5	%DIF	QC Limits
Zirconium			

Associated samples MP27913: JD29267-1, JD29267-2, JD29267-3, JD29267-4, JD29267-5, JD29267-6, JD29267-7, JD29267-8, JD29267-9, JD29267-10, JD29267-11, JD29267-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 08/09/21

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	1.6	8.1		
Antimony	2.0	.25	.41		
Arsenic	2.0	.2	.28		
Barium	20	.04	1.9		
Beryllium	0.20	.01	.08		
Bismuth	2.0	.36	.52		
Boron	10	.19	1.5		
Cadmium	0.50	.04	.07		
Calcium	500	.56	44		
Chromium	1.0	.05	.37		
Cobalt	5.0	.05	.28		
Copper	2.5	.1	.84		
Iron	50	1.1	19		
Lead	2.0	.12	.41	0.030	<2.0
Lithium	5.0	.23	.92		
Magnesium	500	6.5	14		
Manganese	1.5	.02	.41		
Molybdenum	2.0	.04	.32		
Nickel	4.0	.03	.35		
Phosphorus	20	.41	3.3		
Potassium	1000	5.5	32		
Selenium	2.0	.35	.65		
Silicon	20	.16	11		
Silver	0.50	.11	.17		
Sodium	1000	1.1	78		
Strontium	5.0	.01	.18		
Sulfur	10	.44	9.4		
Thallium	1.0	.25	.58		
Tin	20	.1	3.8		
Titanium	1.0	.04	.34		
Tungsten	5.0	.28	1.8		
Vanadium	5.0	.06	.19		
Zinc	5.0	.01	2.3		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 08/09/21

Metal	RL	IDL	MDL	MB raw	final
Zirconium	2.0	.04	.23		

Associated samples MP27946: JD29267-13, JD29267-14, JD29267-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/09/21

Metal	JD29323-8 Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead	4.1	189	212	87.1	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel	anr				
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/09/21

Metal	JD29323-8 Original MS	Spikelot MPSPK2	% Rec	QC Limits
Zirconium				

Associated samples MP27946: JD29267-13, JD29267-14, JD29267-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/09/21

Metal	JD29323-8 Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead	4.1	187	214	85.3	1.1	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/09/21

Metal	JD29323-8 Original MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Zirconium					

Associated samples MP27946: JD29267-13, JD29267-14, JD29267-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 08/09/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	209	198	105.5	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

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SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 08/09/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Zirconium				

Associated samples MP27946: JD29267-13, JD29267-14, JD29267-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946 Methods: SW846 6010D
Matrix Type: SOLID Units: ug/l

Prep Date: 08/09/21

Metal	JD29323-8 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	39.4	40.2	2.0	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946 Methods: SW846 6010D
Matrix Type: SOLID Units: ug/l

Prep Date: 08/09/21

	JD29323-8		QC
Metal	Original SDL 1:5	%DIF	Limits
Zirconium			

Associated samples MP27946: JD29267-13, JD29267-14, JD29267-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

ANALYTICAL REPORT

Lab Number:	L2154810
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.005.03
Report Date:	10/21/21

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2154810
Report Date: 10/21/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2154810-01	PB-886-01-SS01	SOIL	PHILADELPHIA, PA	10/07/21 08:40	10/07/21
L2154810-02	PB-886-02-SS01	SOIL	PHILADELPHIA, PA	10/07/21 08:50	10/07/21
L2154810-03	PB-886-03-SS01	SOIL	PHILADELPHIA, PA	10/07/21 09:20	10/07/21
L2154810-04	PB-886-04-SS01	SOIL	PHILADELPHIA, PA	10/07/21 09:40	10/07/21
L2154810-05	PB-886-05-SS01	SOIL	PHILADELPHIA, PA	10/07/21 10:10	10/07/21
L2154810-06	PB-886-08-SS01	SOIL	PHILADELPHIA, PA	10/07/21 11:10	10/07/21
L2154810-07	PB-886-09-SS01	SOIL	PHILADELPHIA, PA	10/07/21 11:30	10/07/21
L2154810-08	PB-886-11-SS01	SOIL	PHILADELPHIA, PA	10/07/21 11:35	10/07/21
L2154810-09	PB-886-12-SS01	SOIL	PHILADELPHIA, PA	10/07/21 11:45	10/07/21
L2154810-10	PB-886-18-SS01	SOIL	PHILADELPHIA, PA	10/07/21 13:20	10/07/21
L2154810-11	PB-886-24-SS01	SOIL	PHILADELPHIA, PA	10/07/21 13:30	10/07/21
L2154810-12	PB-886-26-SS01	SOIL	PHILADELPHIA, PA	10/07/21 13:40	10/07/21
L2154810-13	PB-886-27-SS01	SOIL	PHILADELPHIA, PA	10/07/21 13:50	10/07/21
L2154810-14	DUP-21	SOIL	PHILADELPHIA, PA	10/07/21 00:00	10/07/21
L2154810-15	FB-211007	WATER	PHILADELPHIA, PA	10/07/21 12:00	10/07/21
L2154810-16	TB-211007	WATER	PHILADELPHIA, PA	10/07/21 00:00	10/07/21

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2154810
Project Number:	200.00135.005.03	**Report Date:**	10/21/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2154810
Project Number:	200.00135.005.03	**Report Date:**	10/21/21

Case Narrative (continued)

Report Submission

October 21, 2021: This final report includes the results of all requested analyses.

October 15, 2021: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

The project number was logged per project history.

L2154810-12: The collection date and time on the chain of custody was 07-OCT-21 13:40; however, the collection date/time on the container label was 07-OCT-21 13:50. At the client's request, the collection date/time is reported as 07-OCT-21 13:40.

L2154810-13: The collection date and time on the chain of custody was 07-OCT-21 13:50; however, the collection date/time on the container label was 07-OCT-21 13:40. At the client's request, the collection date/time is reported as 07-OCT-21 13:50.

Volatile Organics

L2154810-06: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of non-target compounds in the sample.

L2154810-06: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (139%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2154810-12: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (277%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2154810-13: The sample was analyzed as a High Level Methanol in order to quantitate results within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2154810
Project Number: 200.00135.005.03 **Report Date:** 10/21/21

Case Narrative (continued)

that exceeded the calibration on the initial Low Level analysis. The results of both analyses are reported. Differences were noted between the results of the analyses which have been attributed to vial discrepancies. Further re-analysis could not be performed due to the existing vials being compromised.
L2154810-14: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (150%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Total Metals
L2154810-05: The sample has an elevated detection limit for lead due to the dilution required by matrix interferences encountered during analysis.
The WG1556309-3 MS recovery, performed on L2154810-01, is outside the acceptance criteria for lead (74%). A post digestion spike was performed and yielded unacceptable recoveries for lead (71%). The serial dilution recovery was not applicable; therefore, this element fails the matrix test and the result reported in the native sample should be considered estimated.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cristin Walker

Title: Technical Director/Representative Date: 10/21/21

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-01
Client ID: PB-886-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 08:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 15:29
Analyst: AJK
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00097	0.00025	1
Toluene	ND		mg/kg	0.00097	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00097	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00097	0.00028	1
Xylenes, Total	ND		mg/kg	0.00097	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00097	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-02
Client ID: PB-886-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 08:50
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/12/21 22:25
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00091	0.00023	1
Toluene	ND		mg/kg	0.00091	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00091	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00091	0.00026	1
Xylenes, Total	ND		mg/kg	0.00091	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00091	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-03
Client ID: PB-886-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 09:20
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/12/21 22:46
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-04
Client ID: PB-886-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 09:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/12/21 23:06
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	0.00014	J	mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	0.00018	J	mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-05
Client ID: PB-886-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 10:10
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/12/21 23:27
Analyst: JC
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00042	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00084	0.00022	1
Toluene	ND		mg/kg	0.00084	0.00046	1
1,2-Dibromoethane	ND		mg/kg	0.00042	0.00025	1
Ethylbenzene	ND		mg/kg	0.00084	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00047	1
o-Xylene	ND		mg/kg	0.00084	0.00024	1
Xylenes, Total	ND		mg/kg	0.00084	0.00024	1
Isopropylbenzene	ND		mg/kg	0.00084	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-06
Client ID: PB-886-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 11:10
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 02:10
Analyst: JC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.15	0.015	1
Benzene	ND		mg/kg	0.038	0.012	1
1,2-Dichloroethane	ND		mg/kg	0.075	0.019	1
Toluene	ND		mg/kg	0.075	0.041	1
1,2-Dibromoethane	ND		mg/kg	0.038	0.022	1
Ethylbenzene	ND		mg/kg	0.075	0.011	1
p/m-Xylene	ND		mg/kg	0.15	0.042	1
o-Xylene	ND		mg/kg	0.075	0.022	1
Xylenes, Total	ND		mg/kg	0.075	0.022	1
Isopropylbenzene	0.015	J	mg/kg	0.075	0.0082	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.15	0.014	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.15	0.025	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	**139**	Q	70-130
Dibromofluoromethane	120		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-07
Client ID: PB-886-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 11:30
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/12/21 23:47
Analyst: JC
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	ND		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00090	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00090	0.00026	1
Xylenes, Total	ND		mg/kg	0.00090	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-08
Client ID: PB-886-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 11:35
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 00:07
Analyst: JC
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00059	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00064	1
1,2-Dibromoethane	ND		mg/kg	0.00059	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00066	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-09
Client ID: PB-886-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 11:45
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 01:29
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0029	0.00029	1
Benzene	ND		mg/kg	0.00072	0.00024	1
1,2-Dichloroethane	ND		mg/kg	0.0014	0.00037	1
Toluene	ND		mg/kg	0.0014	0.00078	1
1,2-Dibromoethane	ND		mg/kg	0.00072	0.00042	1
Ethylbenzene	ND		mg/kg	0.0014	0.00020	1
p/m-Xylene	ND		mg/kg	0.0029	0.00080	1
o-Xylene	0.00049	J	mg/kg	0.0014	0.00042	1
Xylenes, Total	0.00049	J	mg/kg	0.0014	0.00042	1
Isopropylbenzene	ND		mg/kg	0.0014	0.00016	1
1,3,5-Trimethylbenzene	0.0014	J	mg/kg	0.0029	0.00028	1
1,2,4-Trimethylbenzene	0.0011	J	mg/kg	0.0029	0.00048	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-10
Client ID: PB-886-18-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 13:20
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 00:28
Analyst: JC
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00057	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00057	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00063	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-11
Client ID: PB-886-24-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 13:30
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 00:48
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00053	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00057	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00059	1
o-Xylene	ND		mg/kg	0.0010	0.00031	1
Xylenes, Total	ND		mg/kg	0.0010	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-12
Client ID: PB-886-26-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 13:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 14:48
Analyst: AJK
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	0.00025	J	mg/kg	0.00057	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	0.0012		mg/kg	0.0011	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00057	0.00034	1
Ethylbenzene	0.0032		mg/kg	0.0011	0.00016	1
p/m-Xylene	0.010		mg/kg	0.0023	0.00064	1
o-Xylene	0.015		mg/kg	0.0011	0.00033	1
Xylenes, Total	0.025		mg/kg	0.0011	0.00033	1
Isopropylbenzene	0.0089		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.14		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	0.17		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	128		70-130
4-Bromofluorobenzene	**277**	Q	70-130
Dibromofluoromethane	90		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-13
Client ID: PB-886-27-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 13:50
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 01:09
Analyst: JC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00047	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00095	0.00024	1
Toluene	ND		mg/kg	0.00095	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00047	0.00028	1
Ethylbenzene	0.00018	J	mg/kg	0.00095	0.00013	1
p/m-Xylene	0.00073	J	mg/kg	0.0019	0.00053	1
o-Xylene	0.00034	J	mg/kg	0.00095	0.00028	1
Xylenes, Total	0.0011	J	mg/kg	0.00095	0.00028	1
Isopropylbenzene	0.00021	J	mg/kg	0.00095	0.00010	1
1,3,5-Trimethylbenzene	0.34	E	mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	0.051		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-13
Client ID: PB-886-27-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 13:50
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 14:27
Analyst: AJK
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.12	0.012	1
Benzene	ND		mg/kg	0.031	0.010	1
1,2-Dichloroethane	ND		mg/kg	0.062	0.016	1
Toluene	ND		mg/kg	0.062	0.034	1
1,2-Dibromoethane	ND		mg/kg	0.031	0.018	1
Ethylbenzene	ND		mg/kg	0.062	0.0087	1
p/m-Xylene	ND		mg/kg	0.12	0.034	1
o-Xylene	ND		mg/kg	0.062	0.018	1
Xylenes, Total	ND		mg/kg	0.062	0.018	1
Isopropylbenzene	ND		mg/kg	0.062	0.0067	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.12	0.012	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.12	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-14
Client ID: DUP-21
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 00:00
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 15:08
Analyst: AJK
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0025	0.00025	1
Benzene	ND		mg/kg	0.00063	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00032	1
Toluene	ND		mg/kg	0.0013	0.00068	1
1,2-Dibromoethane	ND		mg/kg	0.00063	0.00037	1
Ethylbenzene	0.00033	J	mg/kg	0.0013	0.00018	1
p/m-Xylene	0.00087	J	mg/kg	0.0025	0.00070	1
o-Xylene	0.0012	J	mg/kg	0.0013	0.00037	1
Xylenes, Total	0.0021	J	mg/kg	0.0013	0.00037	1
Isopropylbenzene	0.00098	J	mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	0.024		mg/kg	0.0025	0.00024	1
1,2,4-Trimethylbenzene	0.025		mg/kg	0.0025	0.00042	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	**150**	Q	70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-15
Client ID: FB-211007
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 12:00
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 10/12/21 15:29
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 10/12/21 14:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-15
Client ID: FB-211007
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 12:00
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/12/21 15:50
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	122		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-16
Client ID: TB-211007
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 00:00
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 10/12/21 15:35
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 10/12/21 14:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-16
Client ID: TB-211007
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 00:00
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/12/21 16:17
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	118		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 10/12/21 15:11
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 10/12/21 14:04

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 15-16 Batch: WG1557629-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2154810

Project Number: 200.00135.005.03 **Report Date:** 10/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/12/21 21:03
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-05,07-11,13 Batch: WG1558059-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/12/21 21:03
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 06 Batch: WG1558061-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2154810

Project Number: 200.00135.005.03 **Report Date:** 10/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/12/21 11:51
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 15-16 Batch: WG1558233-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	116		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/13/21 11:11
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 13 Batch: WG1558494-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2154810

Project Number: 200.00135.005.03 **Report Date:** 10/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/13/21 11:11
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,12,14 Batch: WG1558495-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	101		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 15-16 Batch: WG1557629-2								
1,2-Dibromoethane	116		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-05,07-11,13 Batch: WG1558059-3 WG1558059-4								
Methyl tert butyl ether	102		102		66-130	0		30
Benzene	100		100		70-130	0		30
1,2-Dichloroethane	94		94		70-130	0		30
Toluene	101		100		70-130	1		30
1,2-Dibromoethane	110		112		70-130	2		30
Ethylbenzene	102		100		70-130	2		30
p/m-Xylene	99		97		70-130	2		30
o-Xylene	98		97		70-130	1		30
Isopropylbenzene	107		104		70-130	3		30
1,3,5-Trimethylbenzene	105		103		70-130	2		30
1,2,4-Trimethylbenzene	104		101		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	90		92		70-130
Toluene-d8	101		101		70-130
4-Bromofluorobenzene	99		100		70-130
Dibromofluoromethane	89		90		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 06 Batch: WG1558061-3 WG1558061-4								
Methyl tert butyl ether	102		102		66-130	0		30
Benzene	100		100		70-130	0		30
1,2-Dichloroethane	94		94		70-130	0		30
Toluene	101		100		70-130	1		30
1,2-Dibromoethane	110		112		70-130	2		30
Ethylbenzene	102		100		70-130	2		30
p/m-Xylene	99		97		70-130	2		30
o-Xylene	98		97		70-130	1		30
Isopropylbenzene	107		104		70-130	3		30
1,3,5-Trimethylbenzene	105		103		70-130	2		30
1,2,4-Trimethylbenzene	104		101		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	90		92		70-130
Toluene-d8	101		101		70-130
4-Bromofluorobenzene	99		100		70-130
Dibromofluoromethane	89		90		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 15-16 Batch: WG1558233-3 WG1558233-4								
Methyl tert butyl ether	99		94		63-130	5		20
Benzene	95		98		70-130	3		20
1,2-Dichloroethane	110		110		70-130	0		20
Toluene	95		100		70-130	5		20
Ethylbenzene	94		99		70-130	5		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		100		70-130	5		20
Isopropylbenzene	91		95		70-130	4		20
1,3,5-Trimethylbenzene	87		91		64-130	4		20
1,2,4-Trimethylbenzene	88		89		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	109		98		70-130
Toluene-d8	102		101		70-130
4-Bromofluorobenzene	100		88		70-130
Dibromofluoromethane	114		105		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 13 Batch: WG1558494-3 WG1558494-4								
Methyl tert butyl ether	87		95		66-130	9		30
Benzene	95		96		70-130	1		30
1,2-Dichloroethane	87		90		70-130	3		30
Toluene	96		99		70-130	3		30
1,2-Dibromoethane	99		108		70-130	9		30
Ethylbenzene	97		100		70-130	3		30
p/m-Xylene	94		96		70-130	2		30
o-Xylene	93		96		70-130	3		30
Isopropylbenzene	101		103		70-130	2		30
1,3,5-Trimethylbenzene	99		102		70-130	3		30
1,2,4-Trimethylbenzene	98		101		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	89		90		70-130
Toluene-d8	101		103		70-130
4-Bromofluorobenzene	98		99		70-130
Dibromofluoromethane	91		89		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,12,14 Batch: WG1558495-3 WG1558495-4								
Methyl tert butyl ether	87		95		66-130	9		30
Benzene	95		96		70-130	1		30
1,2-Dichloroethane	87		90		70-130	3		30
Toluene	96		99		70-130	3		30
1,2-Dibromoethane	99		108		70-130	9		30
Ethylbenzene	97		100		70-130	3		30
p/m-Xylene	94		96		70-130	2		30
o-Xylene	93		96		70-130	3		30
Isopropylbenzene	101		103		70-130	2		30
1,3,5-Trimethylbenzene	99		102		70-130	3		30
1,2,4-Trimethylbenzene	98		101		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	89		89		70-130
Toluene-d8	101		103		70-130
4-Bromofluorobenzene	98		99		70-130
Dibromofluoromethane	91		89		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-01
Client ID: PB-886-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 08:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 11:18
Analyst: JG
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	190	24.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	150	47.	1
Benzo(b)fluoranthene	ND		ug/kg	120	33.	1
Chrysene	ND		ug/kg	120	20.	1
Anthracene	ND		ug/kg	120	38.	1
Benzo(ghi)perylene	ND		ug/kg	150	23.	1
Fluorene	ND		ug/kg	190	19.	1
Phenanthrene	ND		ug/kg	120	24.	1
Pyrene	ND		ug/kg	120	19.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	98		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	72		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-02
Client ID: PB-886-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 08:50
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 11:41
Analyst: JG
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	200	24.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	48.	1
Benzo(b)fluoranthene	ND		ug/kg	120	33.	1
Chrysene	ND		ug/kg	120	20.	1
Anthracene	ND		ug/kg	120	38.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	200	19.	1
Phenanthrene	ND		ug/kg	120	24.	1
Pyrene	ND		ug/kg	120	19.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	93		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	64		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-03
Client ID: PB-886-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 09:20
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/14/21 16:48
Analyst: JG
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	200	24.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	49.	1
Benzo(b)fluoranthene	ND		ug/kg	120	34.	1
Chrysene	ND		ug/kg	120	21.	1
Anthracene	ND		ug/kg	120	39.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	200	19.	1
Phenanthrene	ND		ug/kg	120	24.	1
Pyrene	ND		ug/kg	120	20.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**127**	Q	23-120
2-Fluorobiphenyl	88		30-120
4-Terphenyl-d14	65		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-04
Client ID: PB-886-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 09:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 12:28
Analyst: JG
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	190	24.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	47.	1
Benzo(b)fluoranthene	ND		ug/kg	120	33.	1
Chrysene	ND		ug/kg	120	20.	1
Anthracene	ND		ug/kg	120	38.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	190	19.	1
Phenanthrene	43	J	ug/kg	120	24.	1
Pyrene	ND		ug/kg	120	19.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	100		23-120
2-Fluorobiphenyl	88		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-05
Client ID: PB-886-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 10:10
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 12:52
Analyst: JG
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	180	21.	1
Benzo(a)anthracene	ND		ug/kg	100	20.	1
Benzo(a)pyrene	ND		ug/kg	140	43.	1
Benzo(b)fluoranthene	ND		ug/kg	100	29.	1
Chrysene	ND		ug/kg	100	18.	1
Anthracene	ND		ug/kg	100	34.	1
Benzo(ghi)perylene	ND		ug/kg	140	20.	1
Fluorene	ND		ug/kg	180	17.	1
Phenanthrene	ND		ug/kg	100	21.	1
Pyrene	ND		ug/kg	100	17.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	109		23-120
2-Fluorobiphenyl	94		30-120
4-Terphenyl-d14	89		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-06
Client ID: PB-886-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 11:10
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 13:15
Analyst: JG
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	62	J	ug/kg	180	21.	1
Benzo(a)anthracene	ND		ug/kg	100	20.	1
Benzo(a)pyrene	ND		ug/kg	140	43.	1
Benzo(b)fluoranthene	ND		ug/kg	100	30.	1
Chrysene	ND		ug/kg	100	18.	1
Anthracene	320		ug/kg	100	34.	1
Benzo(ghi)perylene	ND		ug/kg	140	21.	1
Fluorene	880		ug/kg	180	17.	1
Phenanthrene	1700		ug/kg	100	21.	1
Pyrene	100		ug/kg	100	17.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	111		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	80		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-07
Client ID: PB-886-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 11:30
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 13:39
Analyst: JG
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	180	21.	1
Benzo(a)anthracene	ND		ug/kg	100	20.	1
Benzo(a)pyrene	ND		ug/kg	140	43.	1
Benzo(b)fluoranthene	ND		ug/kg	100	30.	1
Chrysene	ND		ug/kg	100	18.	1
Anthracene	ND		ug/kg	100	34.	1
Benzo(ghi)perylene	ND		ug/kg	140	21.	1
Fluorene	ND		ug/kg	180	17.	1
Phenanthrene	ND		ug/kg	100	21.	1
Pyrene	ND		ug/kg	100	17.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	72		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-08
Client ID: PB-886-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 11:35
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 14:02
Analyst: JG
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	180	22.	1
Benzo(a)anthracene	ND		ug/kg	110	21.	1
Benzo(a)pyrene	ND		ug/kg	150	45.	1
Benzo(b)fluoranthene	ND		ug/kg	110	31.	1
Chrysene	ND		ug/kg	110	19.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	180	18.	1
Phenanthrene	ND		ug/kg	110	22.	1
Pyrene	ND		ug/kg	110	18.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	103		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	69		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-09
Client ID: PB-886-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 11:45
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 14:26
Analyst: JG
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	190	23.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	150	47.	1
Benzo(b)fluoranthene	ND		ug/kg	120	32.	1
Chrysene	ND		ug/kg	120	20.	1
Anthracene	ND		ug/kg	120	38.	1
Benzo(ghi)perylene	ND		ug/kg	150	23.	1
Fluorene	44	J	ug/kg	190	19.	1
Phenanthrene	120		ug/kg	120	23.	1
Pyrene	ND		ug/kg	120	19.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	105		23-120
2-Fluorobiphenyl	82		30-120
4-Terphenyl-d14	79		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-10
Client ID: PB-886-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 13:20
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 14:49
Analyst: JG
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	140	J	ug/kg	180	22.	1
Benzo(a)anthracene	22	J	ug/kg	110	20.	1
Benzo(a)pyrene	ND		ug/kg	150	44.	1
Benzo(b)fluoranthene	36	J	ug/kg	110	31.	1
Chrysene	93	J	ug/kg	110	19.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	27	J	ug/kg	150	21.	1
Fluorene	30	J	ug/kg	180	18.	1
Phenanthrene	120		ug/kg	110	22.	1
Pyrene	110		ug/kg	110	18.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	62		30-120
4-Terphenyl-d14	56		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-11
Client ID: PB-886-24-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 13:30
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 15:13
Analyst: JG
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	200	25.	1
Benzo(a)anthracene	ND		ug/kg	120	23.	1
Benzo(a)pyrene	ND		ug/kg	160	49.	1
Benzo(b)fluoranthene	ND		ug/kg	120	34.	1
Chrysene	ND		ug/kg	120	21.	1
Anthracene	ND		ug/kg	120	39.	1
Benzo(ghi)perylene	ND		ug/kg	160	24.	1
Fluorene	ND		ug/kg	200	20.	1
Phenanthrene	ND		ug/kg	120	25.	1
Pyrene	ND		ug/kg	120	20.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	91		23-120
2-Fluorobiphenyl	96		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-12
Client ID: PB-886-26-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 13:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 15:36
Analyst: JG
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	22	J	ug/kg	180	22.	1
Benzo(a)anthracene	ND		ug/kg	110	20.	1
Benzo(a)pyrene	ND		ug/kg	140	43.	1
Benzo(b)fluoranthene	ND		ug/kg	110	30.	1
Chrysene	31	J	ug/kg	110	18.	1
Anthracene	34	J	ug/kg	110	34.	1
Benzo(ghi)perylene	ND		ug/kg	140	21.	1
Fluorene	54	J	ug/kg	180	17.	1
Phenanthrene	120		ug/kg	110	22.	1
Pyrene	45	J	ug/kg	110	18.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-13
Client ID: PB-886-27-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 13:50
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 16:00
Analyst: JG
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	170	21.	1
Benzo(a)anthracene	ND		ug/kg	100	20.	1
Benzo(a)pyrene	ND		ug/kg	140	42.	1
Benzo(b)fluoranthene	ND		ug/kg	100	29.	1
Chrysene	ND		ug/kg	100	18.	1
Anthracene	ND		ug/kg	100	34.	1
Benzo(ghi)perylene	ND		ug/kg	140	20.	1
Fluorene	ND		ug/kg	170	17.	1
Phenanthrene	ND		ug/kg	100	21.	1
Pyrene	ND		ug/kg	100	17.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	84		30-120
4-Terphenyl-d14	84		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-14
Client ID: DUP-21
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 00:00
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/12/21 12:50
Analyst: SZ
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 10/10/21 02:47

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	180	22.	1
Benzo(a)anthracene	ND		ug/kg	100	20.	1
Benzo(a)pyrene	ND		ug/kg	140	43.	1
Benzo(b)fluoranthene	ND		ug/kg	100	30.	1
Chrysene	ND		ug/kg	100	18.	1
Anthracene	ND		ug/kg	100	34.	1
Benzo(ghi)perylene	ND		ug/kg	140	21.	1
Fluorene	ND		ug/kg	180	17.	1
Phenanthrene	ND		ug/kg	100	21.	1
Pyrene	ND		ug/kg	100	18.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	93		23-120
2-Fluorobiphenyl	71		30-120
4-Terphenyl-d14	64		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-15
Client ID: FB-211007
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 12:00
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 10/13/21 20:09
Analyst: ALS

Extraction Method: EPA 3510C
Extraction Date: 10/12/21 11:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.05	J	ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	0.02	J	ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	0.02	J	ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	51		21-120
Phenol-d6	41		10-120
Nitrobenzene-d5	55		23-120
2-Fluorobiphenyl	70		15-120
2,4,6-Tribromophenol	62		10-120
4-Terphenyl-d14	75		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/11/21 12:24
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-13 Batch: WG1556449-1					
Naphthalene	ND		ug/kg	160	20.
Benzo(a)anthracene	ND		ug/kg	97	18.
Benzo(a)pyrene	ND		ug/kg	130	39.
Benzo(b)fluoranthene	ND		ug/kg	97	27.
Chrysene	ND		ug/kg	97	17.
Anthracene	ND		ug/kg	97	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	97	20.
Pyrene	ND		ug/kg	97	16.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	96		25-120
Phenol-d6	93		10-120
Nitrobenzene-d5	92		23-120
2-Fluorobiphenyl	89		30-120
2,4,6-Tribromophenol	92		10-136
4-Terphenyl-d14	90		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/12/21 04:51
Analyst: SZ

Extraction Method: EPA 3546
Extraction Date: 10/10/21 02:47

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 14 Batch: WG1556713-1					
Naphthalene	ND		ug/kg	160	20.
Benzo(a)anthracene	ND		ug/kg	99	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	99	28.
Chrysene	ND		ug/kg	99	17.
Anthracene	ND		ug/kg	99	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	99	20.
Pyrene	ND		ug/kg	99	16.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	79		30-120
4-Terphenyl-d14	91		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 10/13/21 18:35
Analyst: ALS

Extraction Method: EPA 3510C
Extraction Date: 10/12/21 11:07

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 15 Batch: WG1557513-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	0.03	J	ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	0.02	J	ug/l	0.10	0.02
Benzo(a)anthracene	0.03	J	ug/l	0.05	0.02
Chrysene	0.02	J	ug/l	0.10	0.01
Benzo(b)fluoranthene	0.05	J	ug/l	0.05	0.01
Benzo(a)pyrene	0.03	J	ug/l	0.10	0.02
Benzo(ghi)perylene	0.04	J	ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	48		21-120
Phenol-d6	39		10-120
Nitrobenzene-d5	50		23-120
2-Fluorobiphenyl	65		15-120
2,4,6-Tribromophenol	63		10-120
4-Terphenyl-d14	74		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-13 Batch: WG1556449-2 WG1556449-3								
Naphthalene	82		94		40-140	14		50
Benzo(a)anthracene	93		98		40-140	5		50
Benzo(a)pyrene	98		107		40-140	9		50
Benzo(b)fluoranthene	94		104		40-140	10		50
Chrysene	88		95		40-140	8		50
Anthracene	87		92		40-140	6		50
Benzo(ghi)perylene	93		99		40-140	6		50
Fluorene	92		96		40-140	4		50
Phenanthrene	86		91		40-140	6		50
Pyrene	90		95		35-142	5		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	91		103		25-120
Phenol-d6	90		100		10-120
Nitrobenzene-d5	89		99		23-120
2-Fluorobiphenyl	88		99		30-120
2,4,6-Tribromophenol	96		99		10-136
4-Terphenyl-d14	87		92		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 14 Batch: WG1556713-2 WG1556713-3								
Naphthalene	81		82		40-140	1		50
Benzo(a)anthracene	85		85		40-140	0		50
Benzo(a)pyrene	88		88		40-140	0		50
Benzo(b)fluoranthene	83		84		40-140	1		50
Chrysene	82		82		40-140	0		50
Anthracene	85		84		40-140	1		50
Benzo(ghi)perylene	83		85		40-140	2		50
Fluorene	84		86		40-140	2		50
Phenanthrene	83		82		40-140	1		50
Pyrene	85		86		35-142	1		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	80		82		23-120
2-Fluorobiphenyl	82		82		30-120
4-Terphenyl-d14	94		94		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 15 Batch: WG1557513-2 WG1557513-3								
Naphthalene	63		57		40-140	10		40
Fluorene	73		69		40-140	6		40
Phenanthrene	68		67		40-140	1		40
Anthracene	71		67		40-140	6		40
Pyrene	74		75		26-127	1		40
Benzo(a)anthracene	75		78		40-140	4		40
Chrysene	67		70		40-140	4		40
Benzo(b)fluoranthene	75		86		40-140	14		40
Benzo(a)pyrene	75		81		40-140	8		40
Benzo(ghi)perylene	66		74		40-140	11		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	54		47		21-120
Phenol-d6	44		41		10-120
Nitrobenzene-d5	55		49		23-120
2-Fluorobiphenyl	69		63		15-120
2,4,6-Tribromophenol	65		56		10-120
4-Terphenyl-d14	73		73		41-149

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-01
Client ID: PB-886-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 08:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.35		mg/kg	4.55	0.244	2	10/08/21 21:25	10/13/21 17:32	EPA 3050B	1,6010D	JC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-02
Client ID: PB-886-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 08:50
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.80		mg/kg	4.64	0.248	2	10/08/21 21:25	10/13/21 17:24	EPA 3050B	1,6010D	JC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-03
Client ID: PB-886-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 09:20
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.50		mg/kg	4.81	0.258	2	10/08/21 21:25	10/13/21 17:28	EPA 3050B	1,6010D	JC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-04
Client ID: PB-886-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 09:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	8.09		mg/kg	4.65	0.249	2	10/08/21 21:25	10/13/21 18:02	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-05
Client ID: PB-886-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 10:10
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.94	J	mg/kg	4.12	0.221	2	10/08/21 21:25	10/13/21 18:07	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-06
Client ID: PB-886-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 11:10
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	81.9		mg/kg	2.10	0.112	1	10/08/21 21:25	10/12/21 23:25	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-07
Client ID: PB-886-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 11:30
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.76	J	mg/kg	2.10	0.113	1	10/08/21 21:25	10/13/21 00:00	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-08
Client ID: PB-886-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 11:35
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	11.7		mg/kg	2.14	0.115	1	10/08/21 21:25	10/13/21 00:05	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-09
Client ID: PB-886-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 11:45
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.66		mg/kg	4.58	0.245	2	10/08/21 21:25	10/13/21 18:11	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-10
Client ID: PB-886-18-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 13:20
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.92	J	mg/kg	2.10	0.112	1	10/08/21 21:25	10/13/21 00:15	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-11
Client ID: PB-886-24-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 13:30
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.51		mg/kg	2.35	0.126	1	10/08/21 21:25	10/13/21 00:19	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-12
Client ID: PB-886-26-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 13:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.15		mg/kg	2.08	0.111	1	10/08/21 21:25	10/13/21 00:24	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-13
Client ID: PB-886-27-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 13:50
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.28		mg/kg	2.04	0.109	1	10/08/21 21:25	10/13/21 00:28	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-14
Client ID: DUP-21
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 00:00
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.87	J	mg/kg	2.09	0.112	1	10/08/21 21:25	10/13/21 00:33	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-15
Client ID: FB-211007
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 12:00
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	10/12/21 06:28	10/14/21 21:40	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 15 Batch: WG1555973-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	10/12/21 06:28	10/14/21 20:35	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-14 Batch: WG1556309-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	10/08/21 21:25	10/12/21 23:07	1,6010D	DL

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 15 Batch: WG1555973-2								
Lead, Total	97		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-14 Batch: WG1556309-2 SRM Lot Number: D109-540								
Lead, Total	82		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2154810
Report Date: 10/21/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 15 QC Batch ID: WG1555973-3 QC Sample: L2154461-01 Client ID: MS Sample												
Lead, Total	ND	530	516.4	97		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-14 QC Batch ID: WG1556309-3 QC Sample: L2154810-01 Client ID: PB-886-01-SS01												
Lead, Total	6.35	48	42.0	**74**	Q	-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-14 QC Batch ID: WG1556309-4 QC Sample: L2154810-01 Client ID: PB-886-01-SS01						
Lead, Total	6.35	6.39	mg/kg	1		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-01
Client ID: PB-886-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 08:40
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.7		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-02
Client ID: PB-886-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 08:50
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.2		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-03
Client ID: PB-886-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 09:20
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.1		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-04
Client ID: PB-886-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 10/07/21 09:40
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.9		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-05
Client ID: PB-886-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 10:10
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.8		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-06
Client ID: PB-886-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 11:10
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.6		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-07
Client ID: PB-886-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 11:30
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.6		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-08
Client ID: PB-886-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 10/07/21 11:35
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.9		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-09
Client ID: PB-886-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 11:45
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.9		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-10
Client ID: PB-886-18-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 13:20
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.0		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-11
Client ID: PB-886-24-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 13:30
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.6		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-12
Client ID: PB-886-26-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 13:40
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.2		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-13
Client ID: PB-886-27-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 13:50
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.0		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-14
Client ID: DUP-21
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 00:00
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.1		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG1556018-1 QC Sample: L2154810-01 Client ID: PB-886-01-SS01						
Solids, Total	84.7	84.8	%	0		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2154810
Report Date: 10/21/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2154810-01A	Vial MeOH preserved	A	NA		3.2	Y	Absent		PA-8260HLW(14)
L2154810-01B	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-01C	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-01D	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)
L2154810-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		PB-TI(180)
L2154810-01F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		8270TCL-PAH(14)
L2154810-02A	Vial MeOH preserved	A	NA		3.2	Y	Absent		PA-8260HLW(14)
L2154810-02B	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-02C	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-02D	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)
L2154810-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		PB-TI(180)
L2154810-02F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		8270TCL-PAH(14)
L2154810-03A	Vial MeOH preserved	A	NA		3.2	Y	Absent		PA-8260HLW(14)
L2154810-03B	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-03C	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-03D	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)
L2154810-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		PB-TI(180)
L2154810-03F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		8270TCL-PAH(14)
L2154810-04A	Vial MeOH preserved	A	NA		3.2	Y	Absent		PA-8260HLW(14)
L2154810-04B	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-04C	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-04D	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2154810
Report Date: 10/21/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2154810-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		PB-TI(180)
L2154810-04F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		8270TCL-PAH(14)
L2154810-05A	Vial MeOH preserved	A	NA		3.2	Y	Absent		PA-8260HLW(14)
L2154810-05B	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-05C	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-05D	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)
L2154810-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		PB-TI(180)
L2154810-05F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		8270TCL-PAH(14)
L2154810-06A	Vial MeOH preserved	A	NA		3.2	Y	Absent		PA-8260HLW(14)
L2154810-06B	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-06C	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-06D	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)
L2154810-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		PB-TI(180)
L2154810-06F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		8270TCL-PAH(14)
L2154810-07A	Vial MeOH preserved	A	NA		3.2	Y	Absent		PA-8260HLW(14)
L2154810-07B	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-07C	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-07D	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)
L2154810-07E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		PB-TI(180)
L2154810-07F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		8270TCL-PAH(14)
L2154810-08A	Vial MeOH preserved	A	NA		3.2	Y	Absent		PA-8260HLW(14)
L2154810-08B	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-08C	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-08D	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)
L2154810-08E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		PB-TI(180)
L2154810-08F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		8270TCL-PAH(14)
L2154810-09A	Vial MeOH preserved	A	NA		3.2	Y	Absent		PA-8260HLW(14)
L2154810-09B	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2154810
Report Date: 10/21/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2154810-09C	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-09D	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)
L2154810-09E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		PB-TI(180)
L2154810-09F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		8270TCL-PAH(14)
L2154810-10A	Vial MeOH preserved	B	NA		4.8	Y	Absent		PA-8260HLW(14)
L2154810-10B	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-10C	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-10D	Plastic 120ml unpreserved	B	NA		4.8	Y	Absent		TS(7)
L2154810-10E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.8	Y	Absent		PB-TI(180)
L2154810-10F	Glass 120ml/4oz unpreserved	B	NA		4.8	Y	Absent		8270TCL-PAH(14)
L2154810-11A	Vial MeOH preserved	B	NA		4.8	Y	Absent		PA-8260HLW(14)
L2154810-11B	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-11C	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-11D	Plastic 120ml unpreserved	B	NA		4.8	Y	Absent		TS(7)
L2154810-11E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.8	Y	Absent		PB-TI(180)
L2154810-11F	Glass 120ml/4oz unpreserved	B	NA		4.8	Y	Absent		8270TCL-PAH(14)
L2154810-12A	Vial MeOH preserved	B	NA		4.8	Y	Absent		PA-8260HLW(14)
L2154810-12B	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-12C	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-12D	Plastic 120ml unpreserved	B	NA		4.8	Y	Absent		TS(7)
L2154810-12E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.8	Y	Absent		PB-TI(180)
L2154810-12F	Glass 120ml/4oz unpreserved	B	NA		4.8	Y	Absent		8270TCL-PAH(14)
L2154810-13A	Vial MeOH preserved	B	NA		4.8	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2154810-13B	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260H(14),PA-8260HLW(14)
L2154810-13C	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260H(14),PA-8260HLW(14)
L2154810-13D	Plastic 120ml unpreserved	B	NA		4.8	Y	Absent		TS(7)
L2154810-13E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.8	Y	Absent		PB-TI(180)
L2154810-13F	Glass 120ml/4oz unpreserved	B	NA		4.8	Y	Absent		8270TCL-PAH(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2154810
Report Date: 10/21/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2154810-14A	Vial MeOH preserved	B	NA		4.8	Y	Absent		PA-8260HLW(14)
L2154810-14B	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-14C	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-14D	Plastic 120ml unpreserved	B	NA		4.8	Y	Absent		TS(7)
L2154810-14E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.8	Y	Absent		PB-TI(180)
L2154810-14F	Glass 120ml/4oz unpreserved	B	NA		4.8	Y	Absent		8270TCL-PAH(14)
L2154810-15A	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2154810-15B	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2154810-15C	Vial HCl preserved	A	NA		3.2	Y	Absent		8011(14)
L2154810-15D	Plastic 250ml HNO3 preserved	A	<2	<2	3.2	Y	Absent		PB-6020T-PPB(180)
L2154810-15E	Amber 250ml unpreserved	A	7	7	3.2	Y	Absent		PA-8270SIM-LVI(7)
L2154810-15F	Amber 250ml unpreserved	A	7	7	3.2	Y	Absent		PA-8270SIM-LVI(7)
L2154810-16A	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2154810-16B	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2154810-16C	Vial Na2S2O3 preserved	A	NA		3.2	Y	Absent		8011(14)
L2154810-16D	Vial Na2S2O3 preserved	A	NA		3.2	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2154810
Project Number:	200.00135.005.03	**Report Date:**	10/21/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2154810
Project Number:	200.00135.005.03	**Report Date:**	10/21/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2154810
Project Number:	200.00135.005.03	**Report Date:**	10/21/21

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2154810
Project Number:	200.00135.005.03	**Report Date:**	10/21/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA TRIAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 10/8/21

ALPHA Job #: L 2154810

Client Information

Client: Ransom Consulting
Address: 2127 Hamilton Ave
Trenton, NJ 08619
Phone: 215-901-4934
Fax:
Email: William.Schmidt@RansomEnv.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☑ EMAIL
☑ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program	Criteria

Other Project Specific Requirements/Comments/Detection Limits:
ONLY REPORT PROJECT SPECIFIC CONSTITUENTS
SEE ATTACHED

ANALYSIS
Rider Spreadsheet 1-5

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments	TOTAL # BOTTLES
54810-01	PB-886-01-5501	10/7	0840	S	TS		6
-02	PB-886-02-5501		0850				
-03	PB-886-03-5501		0920				
-04	PB-886-04-5501		0940				
-05	PB-886-05-5501		1010				
-06	PB-886-08-5501		1110				
-07	PB-886-09-5501		1130				
-08	PB-886-11-5501		1135				
-09	PB-886-12-5501		1145				
-10	PB-886-18-5501		1320				

Container Type	
Preservative	

Relinquished By:	Date/Time	Received By:	Date/Time
	10/7 1535		10/7/21 15
	10/7 1800		1800
	10/7 2030		
AAL	10/8/21 0020	AAL	10/7/21 20:30

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

10/7/21 07:00

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 10/8/21

ALPHA Job #: L2154810

Client Information

Client: Ransom Consulting
Address: 2127 Hamilton Ave
Trenton, NJ 08619
Phone: 215-901-4934
Fax:
Email: William Schmidt
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☑ EMAIL
☑ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program	Criteria

Other Project Specific Requirements/Comments/Detection Limits:

See PG. 1

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5	VOC-Shortlist 1-5	Sample Specific Comments	TOTAL # BOTTLES
54810-11	PB-886-24-5501	10/7	1330	S	JS	X			6
-12	PB-886-26-5501		1340	S		X			6
-13	PB-886-27-5501		1350	S		X			6
-14	DUP-21		-	S		X			6
-15	FB-211007		1200	W		X			6
-16	TB-211007						X		4

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
	10/7 1535		10/7/21
	10/8 1030		10/8/21 2050
	10/8/21 0900		10/8/21 0900

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

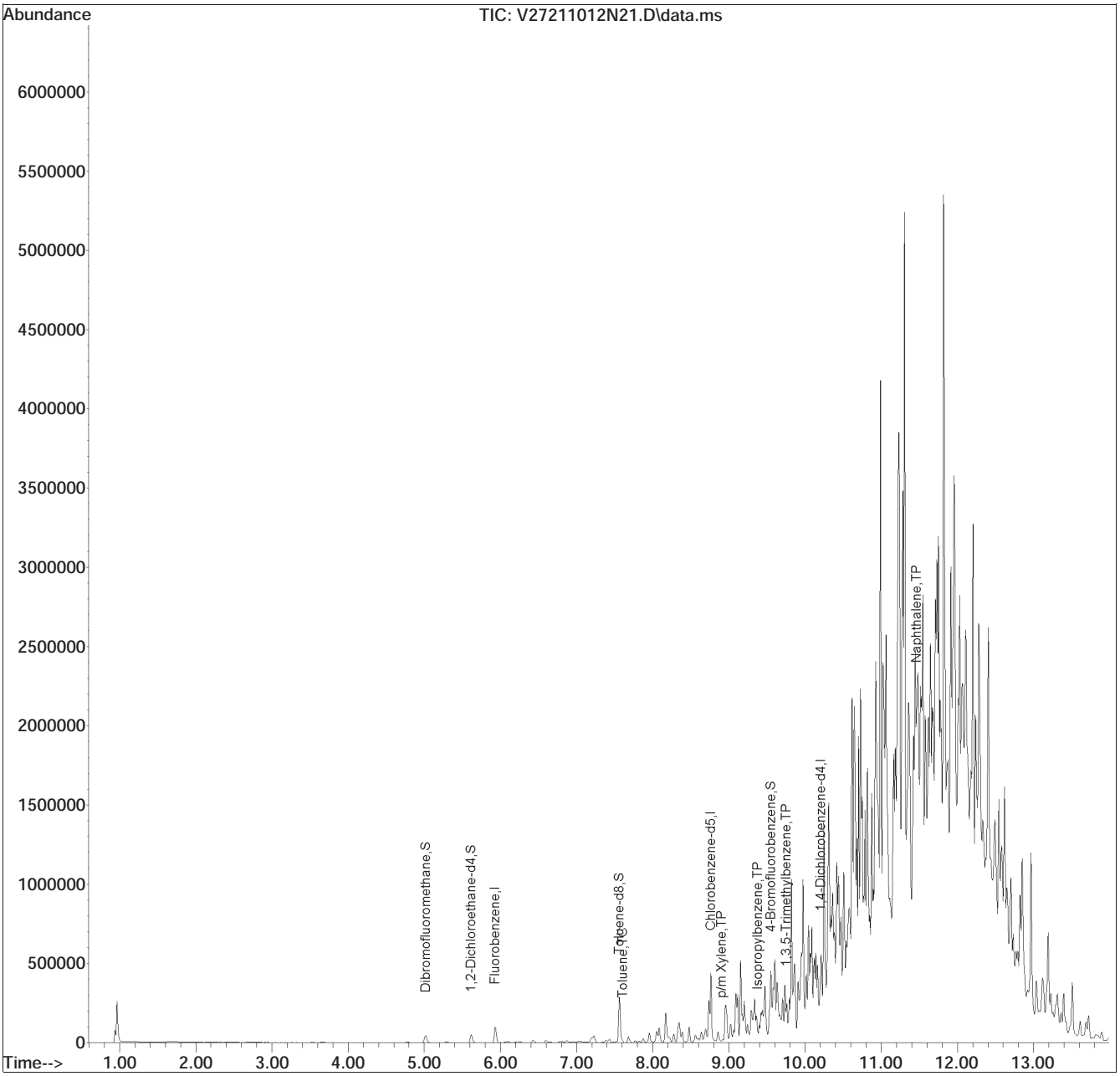
FORM NO: 01-01 (rev. 14-OCT-07)

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA127\2021\211012N\
Data File : V27211012N21.D
Acq On : 13 Oct 2021 02:10 am
Operator : VOA127:JC
Sample : L2154810-06,31H,3.71,5,0.100,,A
Misc : WG1558061,ICAL18360
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Oct 13 07:53:25 2021
Quant Method : I:\VOLATILES\VOA127\2021\211012N\V127_211005N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Oct 06 10:48:31 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list12N\V27211012N01.D•

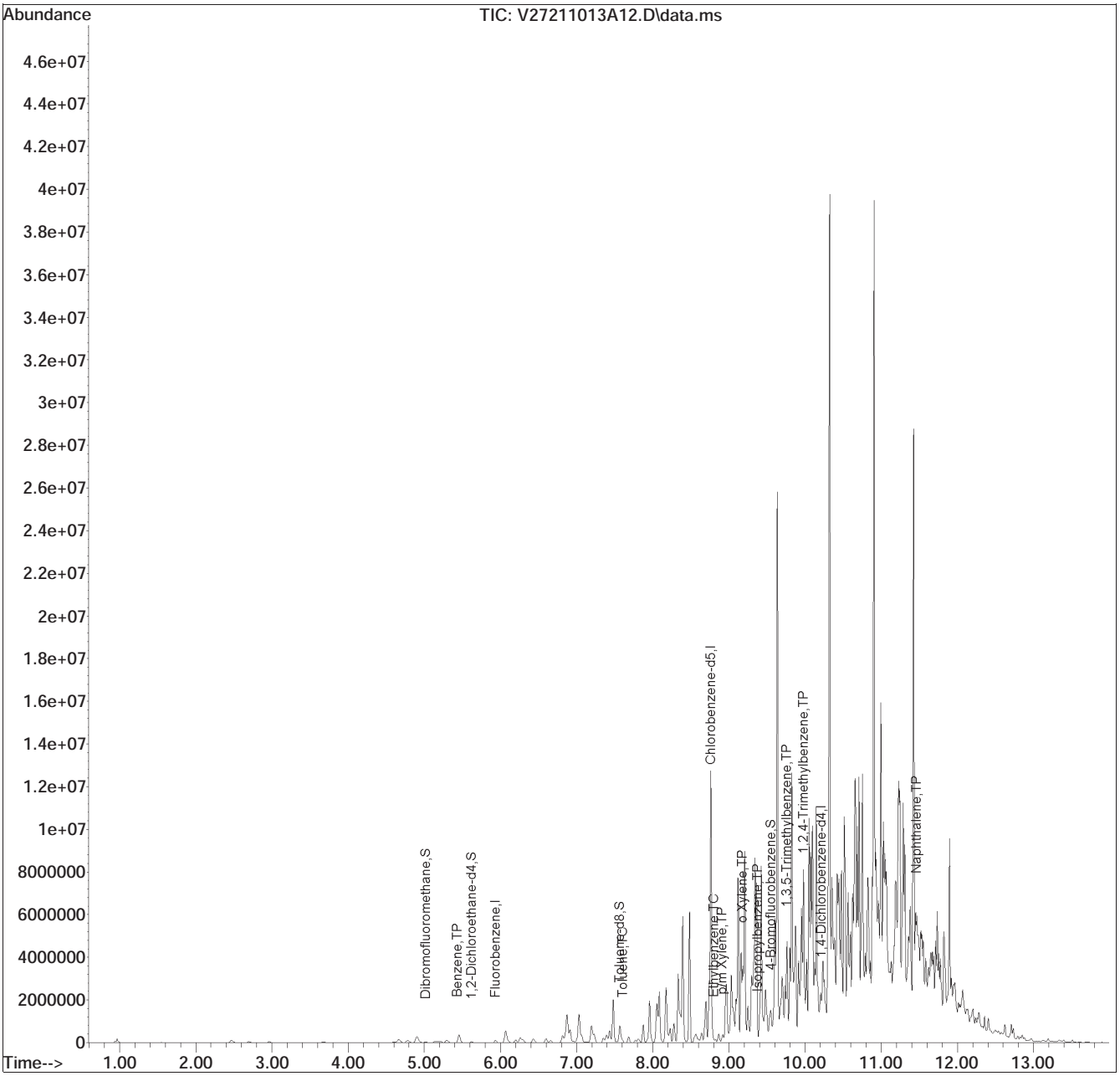


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA127\2021\211013A\
Data File : V27211013A12.D
Acq On : 13 Oct 2021 02:48 pm
Operator : VOA127:AJK
Sample : L2154810-12,31,4.79,5,,B
Misc : WG1558495,ICAL18360
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 13 16:21:31 2021
Quant Method : I:\VOLATILES\VOA127\2021\211013A\V127_211005N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Oct 06 10:48:31 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list13A\V27211013A01.D•

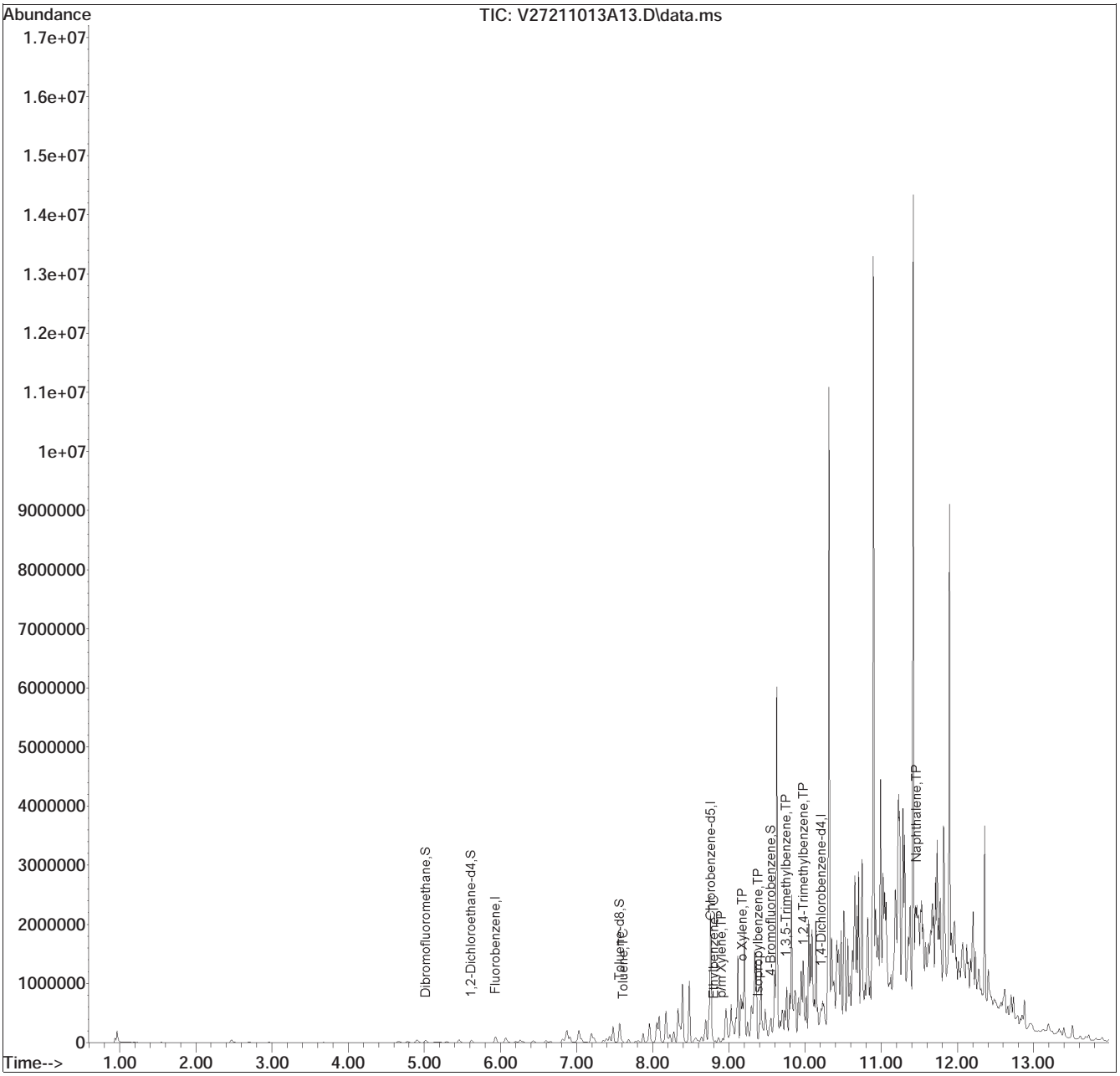


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA127\2021\211013A\
Data File : V27211013A13.D
Acq On : 13 Oct 2021 03:08 pm
Operator : VOA127:AJK
Sample : L2154810-14,31,4.26,5,,B
Misc : WG1558495,ICAL18360
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 13 16:18:54 2021
Quant Method : I:\VOLATILES\VOA127\2021\211013A\V127_211005N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Oct 06 10:48:31 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list13A\V27211013A01.D•



ANALYTICAL REPORT

Lab Number:	L2166670
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.005.03
Report Date:	12/20/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166670
Report Date: 12/20/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2166670-01	PB-16V137-03-SS01	SOIL	PHILADELPHIA, PA	12/03/21 10:45	12/03/21
L2166670-02	PB-16V135-05-SS01	SOIL	PHILADELPHIA, PA	12/03/21 11:40	12/03/21
L2166670-03	PB-884-01-SS01	SOIL	PHILADELPHIA, PA	12/03/21 13:40	12/03/21
L2166670-04	PB-884-02-SS01	SOIL	PHILADELPHIA, PA	12/03/21 13:50	12/03/21
L2166670-05	PB-884-03-SS01	SOIL	PHILADELPHIA, PA	12/03/21 14:00	12/03/21
L2166670-06	PB-884-04-SS01	SOIL	PHILADELPHIA, PA	12/03/21 14:10	12/03/21
L2166670-07	PB-884-11-SS01	SOIL	PHILADELPHIA, PA	12/03/21 14:15	12/03/21
L2166670-08	PB-884-12-SS01	SOIL	PHILADELPHIA, PA	12/03/21 14:25	12/03/21
L2166670-09	PB-884-27-SS01	SOIL	PHILADELPHIA, PA	12/03/21 14:45	12/03/21
L2166670-10	PB-884-28-SS01	SOIL	PHILADELPHIA, PA	12/03/21 14:55	12/03/21
L2166670-11	PB-884-29-SS01	SOIL	PHILADELPHIA, PA	12/03/21 15:10	12/03/21
L2166670-12	DUP-22	SOIL	PHILADELPHIA, PA	12/03/21 00:00	12/03/21
L2166670-13	FB-211203	WATER	PHILADELPHIA, PA	12/03/21 15:30	12/03/21
L2166670-14	TB-211203	WATER	PHILADELPHIA, PA	12/03/21 00:00	12/03/21

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166670
Project Number:	200.00135.005.03	**Report Date:**	12/20/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166670
Project Number:	200.00135.005.03	**Report Date:**	12/20/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2166670-06: The surrogate recoveries are outside the acceptance criteria for toluene-d8 (131%) and 4-bromofluorobenzene (667%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Semivolatile Organics by SIM

L2166670-13: The Field Blank has a concentration above the reporting limit for Phenanthrene. The sample was re-extracted with the method required holding time exceeded and was non-detect for this target compound. The results of both extractions are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 12/20/21

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-03
Client ID: PB-884-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 13:40
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 00:22
Analyst: JC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	0.00030	J	mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00092	0.00024	1
Toluene	0.0010		mg/kg	0.00092	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	0.00023	J	mg/kg	0.00092	0.00013	1
p/m-Xylene	0.0034		mg/kg	0.0018	0.00051	1
o-Xylene	0.0014		mg/kg	0.00092	0.00027	1
Xylenes, Total	0.0048		mg/kg	0.00092	0.00027	1
Isopropylbenzene	0.00072	J	mg/kg	0.00092	0.00010	1
1,3,5-Trimethylbenzene	0.00088	J	mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	0.0024		mg/kg	0.0018	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	123		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-04
Client ID: PB-884-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 13:50
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 18:26
Analyst: NLK
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00098	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00028	1
Xylenes, Total	ND		mg/kg	0.00098	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**131**	Q	70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-05
Client ID: PB-884-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:00
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 18:51
Analyst: NLK
Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00053	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00059	1
o-Xylene	ND		mg/kg	0.0010	0.00031	1
Xylenes, Total	ND		mg/kg	0.0010	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**131**	Q	70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-06
Client ID: PB-884-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 14:10
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 02:27
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00030	J	mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	0.00073	J	mg/kg	0.0021	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	0.00073	J	mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.078		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	0.0045		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	0.015		mg/kg	0.0021	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	**131**	Q	70-130
4-Bromofluorobenzene	**667**	Q	70-130
Dibromofluoromethane	90		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-07
Client ID: PB-884-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:15
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 00:47
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	123		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-08
Client ID: PB-884-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:25
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 19:41
Analyst: NLK
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00024	1
Benzene	ND		mg/kg	0.00059	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00064	1
1,2-Dibromoethane	ND		mg/kg	0.00059	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00066	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**146**	Q	70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-09
Client ID: PB-884-27-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:45
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 01:12
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0010	0.00010	1
Benzene	ND		mg/kg	0.00025	0.00008	1
1,2-Dichloroethane	ND		mg/kg	0.00050	0.00013	1
Toluene	ND		mg/kg	0.00050	0.00027	1
1,2-Dibromoethane	ND		mg/kg	0.00025	0.00015	1
Ethylbenzene	ND		mg/kg	0.00050	0.00007	1
p/m-Xylene	ND		mg/kg	0.0010	0.00028	1
o-Xylene	ND		mg/kg	0.00050	0.00015	1
Xylenes, Total	ND		mg/kg	0.00050	0.00015	1
Isopropylbenzene	ND		mg/kg	0.00050	0.00005	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0010	0.00009	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0010	0.00017	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-10
Client ID: PB-884-28-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 14:55
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 01:37
Analyst: JC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00096	0.00025	1
Toluene	ND		mg/kg	0.00096	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00096	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00096	0.00028	1
Xylenes, Total	ND		mg/kg	0.00096	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00096	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-11
Client ID: PB-884-29-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 15:10
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 02:02
Analyst: JC
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	ND		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00090	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00090	0.00026	1
Xylenes, Total	ND		mg/kg	0.00090	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-12
Client ID: DUP-22
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 00:00
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 21:20
Analyst: NLK
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00031	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00060	1
o-Xylene	ND		mg/kg	0.0011	0.00031	1
Xylenes, Total	ND		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**140**	Q	70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-13
Client ID: FB-211203
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 15:30
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/16/21 15:58
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/16/21 13:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-13
Client ID: FB-211203
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 15:30
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/14/21 09:37
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-14
Client ID: TB-211203
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 00:00
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/16/21 16:06
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/16/21 13:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-14
Client ID: TB-211203
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 00:00
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/14/21 10:04
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/13/21 13:47
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04-05,08,12 Batch: WG1583191-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	124		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/14/21 18:08
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03,06-07,09-11 Batch: WG1583734-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/14/21 09:11
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 13-14 Batch: WG1583756-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 12/16/21 14:43
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/16/21 13:32

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 13-14 Batch: WG1584239-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166670

Report Date: 12/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 04-05,08,12 Batch: WG1583191-3 WG1583191-4								
Methyl tert butyl ether	114		122		66-130	7		30
Benzene	110		114		70-130	4		30
1,2-Dichloroethane	122		**131**	Q	70-130	7		30
Toluene	106		110		70-130	4		30
1,2-Dibromoethane	120		130		70-130	8		30
Ethylbenzene	104		109		70-130	5		30
p/m-Xylene	103		107		70-130	4		30
o-Xylene	103		109		70-130	6		30
Isopropylbenzene	106		111		70-130	5		30
1,3,5-Trimethylbenzene	108		112		70-130	4		30
1,2,4-Trimethylbenzene	109		114		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	121		120		70-130
Toluene-d8	108		108		70-130
4-Bromofluorobenzene	115		115		70-130
Dibromofluoromethane	97		98		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166670

Report Date: 12/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 03,06-07,09-11 Batch: WG1583734-3 WG1583734-4								
Methyl tert butyl ether	99		101		66-130	2		30
Benzene	100		100		70-130	0		30
1,2-Dichloroethane	97		98		70-130	1		30
Toluene	106		105		70-130	1		30
1,2-Dibromoethane	99		100		70-130	1		30
Ethylbenzene	107		106		70-130	1		30
p/m-Xylene	105		105		70-130	0		30
o-Xylene	103		103		70-130	0		30
Isopropylbenzene	112		109		70-130	3		30
1,3,5-Trimethylbenzene	109		106		70-130	3		30
1,2,4-Trimethylbenzene	106		104		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		103		70-130
Toluene-d8	105		106		70-130
4-Bromofluorobenzene	113		110		70-130
Dibromofluoromethane	93		94		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166670

Report Date: 12/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 13-14 Batch: WG1583756-3 WG1583756-4								
Methyl tert butyl ether	85		100		63-130	16		20
Benzene	98		110		70-130	12		20
1,2-Dichloroethane	88		99		70-130	12		20
Toluene	97		100		70-130	3		20
Ethylbenzene	98		100		70-130	2		20
p/m-Xylene	100		105		70-130	5		20
o-Xylene	100		110		70-130	10		20
Isopropylbenzene	88		97		70-130	10		20
1,3,5-Trimethylbenzene	96		110		64-130	14		20
1,2,4-Trimethylbenzene	87		96		70-130	10		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		98		70-130
Toluene-d8	101		99		70-130
4-Bromofluorobenzene	98		98		70-130
Dibromofluoromethane	95		97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166670

Report Date: 12/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 13-14 Batch: WG1584239-2								
1,2-Dibromoethane	92		-		80-120	-		20	A

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-03
Client ID: PB-884-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 13:40
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 10:00
Analyst: ALS
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	0.031	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.053	J	mg/kg	0.12	0.022	1
Chrysene	0.048	J	mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	0.077	J	mg/kg	0.12	0.034	1
Benzo(a)pyrene	0.055	J	mg/kg	0.16	0.049	1
Benzo(ghi)perylene	0.032	J	mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	66		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-04
Client ID: PB-884-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 13:50
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 10:48
Analyst: ALS
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	106		23-120
2-Fluorobiphenyl	89		30-120
4-Terphenyl-d14	87		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-05
Client ID: PB-884-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:00
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 11:12
Analyst: ALS
Percent Solids: 78%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.21	0.025	1
Fluorene	ND		mg/kg	0.21	0.020	1
Phenanthrene	0.033	J	mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	0.055	J	mg/kg	0.12	0.021	1
Benzo(a)anthracene	0.053	J	mg/kg	0.12	0.023	1
Chrysene	0.048	J	mg/kg	0.12	0.022	1
Benzo(b)fluoranthene	0.051	J	mg/kg	0.12	0.035	1
Benzo(a)pyrene	ND		mg/kg	0.17	0.051	1
Benzo(ghi)perylene	ND		mg/kg	0.17	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	109		23-120
2-Fluorobiphenyl	88		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-06
Client ID: PB-884-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:10
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 11:36
Analyst: ALS
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.073	J	mg/kg	0.20	0.025	1
Fluorene	0.35		mg/kg	0.20	0.020	1
Phenanthrene	0.32		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	111		23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	70		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-07
Client ID: PB-884-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:15
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 12:00
Analyst: ALS
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.068	J	mg/kg	0.21	0.025	1
Fluorene	ND		mg/kg	0.21	0.020	1
Phenanthrene	0.065	J	mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	0.091	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.089	J	mg/kg	0.12	0.023	1
Chrysene	0.087	J	mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	0.095	J	mg/kg	0.12	0.035	1
Benzo(a)pyrene	0.074	J	mg/kg	0.16	0.050	1
Benzo(ghi)perylene	0.038	J	mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	67		30-120
4-Terphenyl-d14	63		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-08
Client ID: PB-884-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:25
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 12:49
Analyst: ALS
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	70		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-09
Client ID: PB-884-27-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:45
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 13:13
Analyst: ALS
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	63		30-120
4-Terphenyl-d14	62		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-10
Client ID: PB-884-28-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:55
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 13:37
Analyst: ALS
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	0.045	J	mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	0.060	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.042	J	mg/kg	0.12	0.023	1
Chrysene	0.038	J	mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	0.039	J	mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	74		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-11
Client ID: PB-884-29-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 15:10
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 14:01
Analyst: ALS
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.21	0.025	1
Fluorene	ND		mg/kg	0.21	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.021	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.022	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.035	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.051	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	93		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	69		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-12
Client ID: DUP-22
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 00:00
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 14:25
Analyst: ALS
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	105		23-120
2-Fluorobiphenyl	81		30-120
4-Terphenyl-d14	79		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-13
Client ID: FB-211203
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 15:30
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/09/21 16:14
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 12/08/21 21:47

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	0.02	J	ug/l	0.10	0.01	1
Phenanthrene	0.19		ug/l	0.05	0.02	1
Anthracene	0.02	J	ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	82		15-120
4-Terphenyl-d14	88		41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-13 RE
Client ID: FB-211203
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 15:30
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/18/21 15:54
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 12/17/21 13:07

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	0.01	J	ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	65		23-120
2-Fluorobiphenyl	83		15-120
4-Terphenyl-d14	98		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 12/09/21 15:16
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 12/08/21 21:47

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 13 Batch: WG1580888-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	78		15-120
4-Terphenyl-d14	84		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/15/21 07:59
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 03-12 Batch: WG1582958-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.027
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	106		23-120
2-Fluorobiphenyl	91		30-120
4-Terphenyl-d14	95		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 12/18/21 14:55
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 12/17/21 13:07

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 13 Batch: WG1584717-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	0.02	J	ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	0.02	J	ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	61		23-120
2-Fluorobiphenyl	76		15-120
4-Terphenyl-d14	99		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166670
Report Date: 12/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 13 Batch: WG1580888-2 WG1580888-3								
Naphthalene	71		71		40-140	0		40
Fluorene	75		78		40-140	4		40
Phenanthrene	72		75		40-140	4		40
Anthracene	76		79		40-140	4		40
Pyrene	77		80		26-127	4		40
Benzo(a)anthracene	72		79		40-140	9		40
Chrysene	73		76		40-140	4		40
Benzo(b)fluoranthene	74		75		40-140	1		40
Benzo(a)pyrene	75		81		40-140	8		40
Benzo(ghi)perylene	73		78		40-140	7		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	76		76		23-120
2-Fluorobiphenyl	77		78		15-120
4-Terphenyl-d14	81		85		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166670

Report Date: 12/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 03-12 Batch: WG1582958-2 WG1582958-3								
Naphthalene	80		79		40-140	1		50
Fluorene	88		88		40-140	0		50
Phenanthrene	83		84		40-140	1		50
Anthracene	85		84		40-140	1		50
Pyrene	86		86		35-142	0		50
Benzo(a)anthracene	87		86		40-140	1		50
Chrysene	81		81		40-140	0		50
Benzo(b)fluoranthene	82		81		40-140	1		50
Benzo(a)pyrene	74		74		40-140	0		50
Benzo(ghi)perylene	83		81		40-140	2		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	97		98		23-120
2-Fluorobiphenyl	83		84		30-120
4-Terphenyl-d14	88		86		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166670
Report Date: 12/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 13 Batch: WG1584717-2 WG1584717-3								
Naphthalene	68		69		40-140	1		40
Fluorene	80		79		40-140	1		40
Phenanthrene	79		79		40-140	0		40
Anthracene	82		82		40-140	0		40
Pyrene	89		88		26-127	1		40
Benzo(a)anthracene	79		80		40-140	1		40
Chrysene	82		82		40-140	0		40
Benzo(b)fluoranthene	92		91		40-140	1		40
Benzo(a)pyrene	86		86		40-140	0		40
Benzo(ghi)perylene	77		77		40-140	0		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	66		65		23-120
2-Fluorobiphenyl	82		80		15-120
4-Terphenyl-d14	96		94		41-149

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-03
Client ID: PB-884-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 13:40
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	24.5		mg/kg	2.28	0.122	1	12/15/21 06:44	12/16/21 10:34	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-04
Client ID: PB-884-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 13:50
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.62		mg/kg	2.36	0.127	1	12/15/21 06:44	12/16/21 10:39	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-05
Client ID: PB-884-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 14:00
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	8.80		mg/kg	2.49	0.133	1	12/15/21 06:44	12/16/21 10:43	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-06
Client ID: PB-884-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 14:10
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.72		mg/kg	2.43	0.130	1	12/15/21 06:44	12/16/21 10:47	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-07
Client ID: PB-884-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 14:15
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	37.0		mg/kg	2.43	0.130	1	12/15/21 06:44	12/16/21 10:52	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-08
Client ID: PB-884-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 14:25
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.65		mg/kg	2.40	0.129	1	12/15/21 06:44	12/16/21 10:56	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-09
Client ID: PB-884-27-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 14:45
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	11.5		mg/kg	2.41	0.129	1	12/15/21 06:44	12/16/21 11:01	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-10
Client ID: PB-884-28-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 14:55
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	9.37		mg/kg	2.39	0.128	1	12/15/21 06:44	12/16/21 11:05	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-11
Client ID: PB-884-29-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 15:10
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.49		mg/kg	2.47	0.132	1	12/15/21 06:44	12/16/21 11:09	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-12
Client ID: DUP-22
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 00:00
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	54.3		mg/kg	2.37	0.127	1	12/15/21 06:44	12/16/21 11:14	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-13
Client ID: FB-211203
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 15:30
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	12/14/21 05:12	12/17/21 00:23	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 13 Batch: WG1582832-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	12/14/21 05:12	12/16/21 23:54	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 03-12 Batch: WG1583047-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	12/15/21 06:44	12/16/21 08:15	1,6010D	EW

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166670

Report Date: 12/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 13 Batch: WG1582832-2								
Lead, Total	100		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 03-12 Batch: WG1583047-2 SRM Lot Number: D113-540								
Lead, Total	92		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166670
Report Date: 12/20/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 13 QC Batch ID: WG1582832-3 WG1582832-4 QC Sample: L2167147-05 Client ID: MS Sample												
Lead, Total	1.973	530	492.8	93		482.8	91		75-125	2		20
Total Metals - Mansfield Lab Associated sample(s): 03-12 QC Batch ID: WG1583047-3 QC Sample: L2168261-01 Client ID: MS Sample												
Lead, Total	1.67J	45.3	23.4	**52**	Q	-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166670

Report Date: 12/20/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 03-12 QC Batch ID: WG1583047-4 QC Sample: L2168261-01 Client ID: DUP Sample						
Lead, Total	1.67J	1.93J	mg/kg	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-01
Client ID: PB-16V137-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/03/21 10:45
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	10.0		SU	-	NA	1	-	12/14/21 20:15	1,9045D	AS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-02
Client ID: PB-16V135-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/03/21 11:40
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	11.6		SU	-	NA	1	-	12/14/21 20:15	1,9045D	AS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-03
Client ID: PB-884-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/03/21 13:40
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.6		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-04
Client ID: PB-884-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/03/21 13:50
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.3		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-05
Client ID: PB-884-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/03/21 14:00
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.0		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-06
Client ID: PB-884-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/03/21 14:10
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.5		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-07
Client ID: PB-884-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/03/21 14:15
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.8		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-08
Client ID: PB-884-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/03/21 14:25
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.7		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-09
Client ID: PB-884-27-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/03/21 14:45
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.0		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-10
Client ID: PB-884-28-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 14:55
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.3		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-11
Client ID: PB-884-29-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/03/21 15:10
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.3		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-12
Client ID: DUP-22
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/03/21 00:00
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.1		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-13
Client ID: FB-211203
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Water

Date Collected: 12/03/21 15:30
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.8		SU	-	NA	1	-	12/06/21 20:55	1,9040C	RM

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166670

Report Date: 12/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 13 Batch: WG1579826-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1583314-1								
pH	100		-		99-101	-		

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166670

Report Date: 12/20/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 03-12 QC Batch ID: WG1579122-1 QC Sample: L2166670-03 Client ID: PB-884-01-SS01						
Solids, Total	82.6	81.4	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 13 QC Batch ID: WG1579826-2 QC Sample: L2166391-01 Client ID: DUP Sample						
pH	6.9	7.0	SU	1		5
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1583314-2 QC Sample: L2168239-01 Client ID: DUP Sample						
pH	8.6	8.2	SU	5		5

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166670
Report Date: 12/20/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2166670-01A	Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		PH-9045(1)
L2166670-02A	Glass 120ml/4oz unpreserved	A	NA		4.2	Y	Absent		PH-9045(1)
L2166670-03A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2166670-03B	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-03C	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-03D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2166670-03E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2166670-03F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2166670-04A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2166670-04B	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-04C	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-04D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2166670-04E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2166670-04F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2166670-05A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2166670-05B	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-05C	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-05D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2166670-05E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2166670-05F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2166670-06A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2166670-06B	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2166670-06C	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-06D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2166670-06E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2166670-06F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2166670-07A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2166670-07B	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-07C	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-07D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2166670-07E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2166670-07F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2166670-08A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2166670-08B	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-08C	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-08D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2166670-08E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2166670-08F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2166670-09A	Vial MeOH preserved	A	NA		4.2	Y	Absent		PA-8260HLW(14)
L2166670-09B	Vial water preserved	A	NA		4.2	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-09C	Vial water preserved	A	NA		4.2	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-09D	Plastic 2oz unpreserved for TS	A	NA		4.2	Y	Absent		TS(7)
L2166670-09E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		PB-TI(180)
L2166670-09F	Glass 120ml/4oz unpreserved	A	NA		4.2	Y	Absent		PA-PAH(14)
L2166670-10A	Vial MeOH preserved	A	NA		4.2	Y	Absent		PA-8260HLW(14)
L2166670-10B	Vial water preserved	A	NA		4.2	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-10C	Vial water preserved	A	NA		4.2	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-10D	Plastic 2oz unpreserved for TS	A	NA		4.2	Y	Absent		TS(7)
L2166670-10E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		PB-TI(180)
L2166670-10F	Glass 120ml/4oz unpreserved	A	NA		4.2	Y	Absent		PA-PAH(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166670
Report Date: 12/20/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2166670-11A	Vial MeOH preserved	A	NA		4.2	Y	Absent		PA-8260HLW(14)
L2166670-11B	Vial water preserved	A	NA		4.2	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-11C	Vial water preserved	A	NA		4.2	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-11D	Plastic 2oz unpreserved for TS	A	NA		4.2	Y	Absent		TS(7)
L2166670-11E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		PB-TI(180)
L2166670-11F	Glass 120ml/4oz unpreserved	A	NA		4.2	Y	Absent		PA-PAH(14)
L2166670-12A	Vial MeOH preserved	A	NA		4.2	Y	Absent		PA-8260HLW(14)
L2166670-12B	Vial water preserved	A	NA		4.2	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-12C	Vial water preserved	A	NA		4.2	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-12D	Plastic 2oz unpreserved for TS	A	NA		4.2	Y	Absent		TS(7)
L2166670-12E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		PB-TI(180)
L2166670-12F	Glass 120ml/4oz unpreserved	A	NA		4.2	Y	Absent		PA-PAH(14)
L2166670-13A	Vial HCl preserved	A	NA		4.2	Y	Absent		PA-8260(14)
L2166670-13B	Vial HCl preserved	A	NA		4.2	Y	Absent		PA-8260(14)
L2166670-13C	Vial HCl preserved	A	NA		4.2	Y	Absent		8011(14)
L2166670-13D	Plastic 250ml HNO3 preserved	A	<2	<2	4.2	Y	Absent		PH-9040(1)
L2166670-13E	Plastic 250ml unpreserved	A	7	7	4.2	Y	Absent		PB-6020T-PPB(180)
L2166670-13F	Plastic 250ml unpreserved	A	7	7	4.2	Y	Absent		PA-PAHSIM-LVI(7)
L2166670-13G	Amber 250ml unpreserved	A	7	7	4.2	Y	Absent		PA-PAHSIM-LVI(7)
L2166670-14A	Vial HCl preserved	A	NA		4.2	Y	Absent		PA-8260(14)
L2166670-14B	Vial HCl preserved	A	NA		4.2	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166670
Project Number:	200.00135.005.03	**Report Date:**	12/20/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166670
Project Number:	200.00135.005.03	**Report Date:**	12/20/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166670
Project Number:	200.00135.005.03	**Report Date:**	12/20/21

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166670
Project Number:	200.00135.005.03	**Report Date:**	12/20/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/4/21 | ALPHA Job #: L2106070

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist		Sample Specific Comments	TOTAL # BOTTLES
L2106070-01	PB-1037-03-5501	12/3	1045	S	TS	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐		1
02	PB-1035-05-5501		1140	S	TS	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐		1
03	PB-884-01-5501		1340	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
04	PB-884-02-5501		1350	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
05	PB-884-03-5501		1400	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
06	PB-884-04-5501		1410	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
07	PB-884-11-5501		1415	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
08	PB-884-12-5501		1425	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
09	PB-884-27-5501		1445	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
10	PB-884-28-5501		1455	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
	Container Type					G	G	G	-	-	-	-	-	-	-	-	-		
	Preservative					F	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	12/3 1616		
	12/4 700		
	12-3 2100	Paul Mazzella	12/3/21 2120
Paul Mazzella	12/4/21 0220		12/4/21 0220

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/4/21

ALPHA Job #: L2160670

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist (1-5)		Sample Specific Comments	TOTAL # BOTTLES
L2160670-11	PB-884-29-5501	12/3	1510	S	TS	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
12	DUP-22	12/3	-	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
13	FB-211203	12/3	1530	W	TS	☑	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐		7
14	TB-211203	12/3	-	W	TS	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐		2
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		

Container Type	G	G	G	-	-	-	-	-	-	-	-	-		
Preservative	F	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	12/3 1618		12/3/21 1618
	12/4 1210		
	12/3 2100	Paul Mazzella	12/3/21

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-N,I)
(rev. 5-JAN-12)

Paul Mazzella 12/4/21 0220 12/4/21 0220

PADEP Short List Analytical List:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

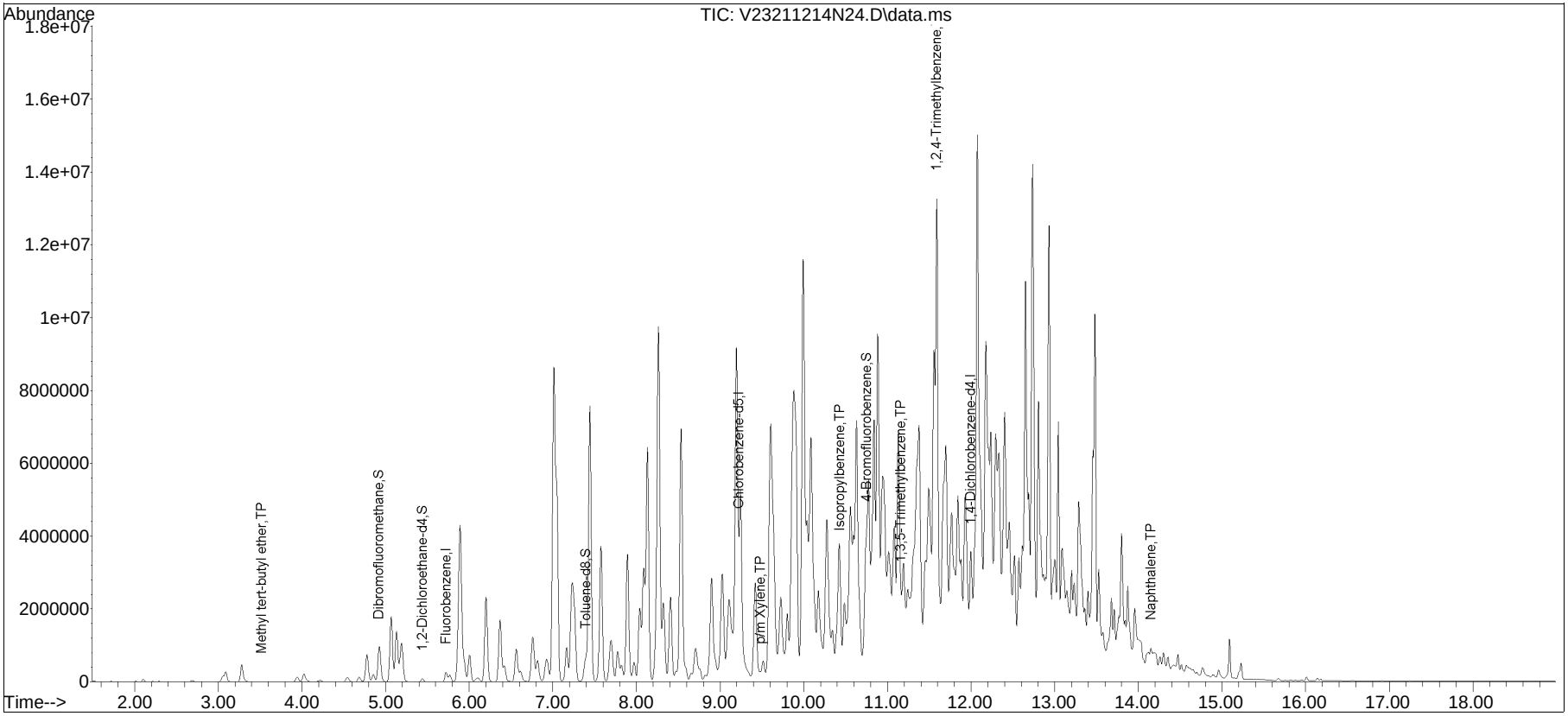
6. Waste Oil – benzene, toluene, ethyl benzene, cumene, naphthalene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, lead

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA123\2021\211214N\
Data File : V23211214N24.D
Acq On : 15 Dec 2021 02:27 am
Operator : VOA123:JC
Sample : L2166670-06,31,6.00,5,,B
Misc : WG1583734,ICAL18401
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Dec 15 08:01:25 2021
Quant Method : I:\VOLATILES\VOA123\2021\211214N\V123_211020N_8260D.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Oct 21 08:44:24 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list14N\V23211214N01.D•



ANALYTICAL REPORT

Lab Number:	L2166871
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.005.03
Report Date:	12/21/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166871
Report Date: 12/21/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2166871-01	PB-884-22-SS01	SOIL	PHILADELPHIA, PA	12/06/21 10:20	12/06/21
L2166871-02	PB-884-07-SS01	SOIL	PHILADELPHIA, PA	12/06/21 10:45	12/06/21
L2166871-03	PB-884-05-SS01	SOIL	PHILADELPHIA, PA	12/06/21 11:00	12/06/21
L2166871-04	PB-884-06-SS01	SOIL	PHILADELPHIA, PA	12/06/21 11:30	12/06/21
L2166871-05	PB-884-26-SS01	SOIL	PHILADELPHIA, PA	12/06/21 12:00	12/06/21
L2166871-06	PB-884-10-SS01	SOIL	PHILADELPHIA, PA	12/06/21 12:20	12/06/21
L2166871-07	PB-885-01-SS01	SOIL	PHILADELPHIA, PA	12/06/21 13:20	12/06/21
L2166871-08	PB-885-02-SS01	SOIL	PHILADELPHIA, PA	12/06/21 13:30	12/06/21
L2166871-09	PB-885-07-SS01	SOIL	PHILADELPHIA, PA	12/06/21 13:45	12/06/21
L2166871-10	PB-885-16-SS01	SOIL	PHILADELPHIA, PA	12/06/21 14:00	12/06/21
L2166871-11	PB-885-03-SS01	SOIL	PHILADELPHIA, PA	12/06/21 14:10	12/06/21
L2166871-12	PB-885-08-SS01	SOIL	PHILADELPHIA, PA	12/06/21 14:20	12/06/21
L2166871-13	PB-885-09-SS01	SOIL	PHILADELPHIA, PA	12/06/21 14:30	12/06/21
L2166871-14	PB-885-10-SS01	SOIL	PHILADELPHIA, PA	12/06/21 14:40	12/06/21
L2166871-15	PB-885-11-SS01	SOIL	PHILADELPHIA, PA	12/06/21 14:50	12/06/21
L2166871-16	FB-211206	WATER	PHILADELPHIA, PA	12/06/21 15:00	12/06/21

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166871
Project Number:	200.00135.005.03	**Report Date:**	12/21/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166871
Project Number:	200.00135.005.03	**Report Date:**	12/21/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2166871-04: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (152%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Semivolatile Organics

L2166871-12: The sample has elevated detection limits due to the dilution required by matrix interferences encountered during the concentration of the sample.

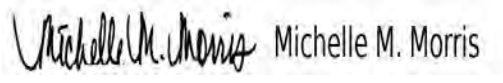
Semivolatile Organics by SIM

The WG1582162-1 Method Blank, associated with L2166871-16, has a concentration above the reporting limit for Naphthalene and Phenanthrene. Since the associated sample concentrations are either greater than 10x the blank concentration or non-detect to the RL for this target analyte, no corrective action is required. Any results detected below the reporting limit are qualified with a "B".

Total Metals

L2166871-04, -07, -08, and -10: The sample has an elevated detection limit due to the dilution required by matrix interferences encountered during analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Michelle M. Morris

Title: Technical Director/Representative Date: 12/21/21

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-01
Client ID: PB-884-22-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 10:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 19:43
Analyst: MV
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0026	0.00027	1
Benzene	ND		mg/kg	0.00066	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00034	1
Toluene	ND		mg/kg	0.0013	0.00072	1
1,2-Dibromoethane	ND		mg/kg	0.00066	0.00039	1
Ethylbenzene	ND		mg/kg	0.0013	0.00019	1
p/m-Xylene	ND		mg/kg	0.0026	0.00074	1
o-Xylene	ND		mg/kg	0.0013	0.00038	1
Xylenes, Total	ND		mg/kg	0.0013	0.00038	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0026	0.00026	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0026	0.00044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-02
Client ID: PB-884-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 10:45
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 06:45
Analyst: MV
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0027	0.00027	1
Benzene	ND		mg/kg	0.00066	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00034	1
Toluene	ND		mg/kg	0.0013	0.00072	1
1,2-Dibromoethane	ND		mg/kg	0.00066	0.00039	1
Ethylbenzene	ND		mg/kg	0.0013	0.00019	1
p/m-Xylene	ND		mg/kg	0.0027	0.00074	1
o-Xylene	ND		mg/kg	0.0013	0.00039	1
Xylenes, Total	ND		mg/kg	0.0013	0.00039	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0027	0.00026	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0027	0.00044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	112		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-03
Client ID: PB-884-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 11:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 20:37
Analyst: MV
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0032	0.00032	1
Benzene	ND		mg/kg	0.00080	0.00027	1
1,2-Dichloroethane	ND		mg/kg	0.0016	0.00041	1
Toluene	ND		mg/kg	0.0016	0.00087	1
1,2-Dibromoethane	ND		mg/kg	0.00080	0.00047	1
Ethylbenzene	ND		mg/kg	0.0016	0.00023	1
p/m-Xylene	ND		mg/kg	0.0032	0.00090	1
o-Xylene	ND		mg/kg	0.0016	0.00047	1
Xylenes, Total	ND		mg/kg	0.0016	0.00047	1
Isopropylbenzene	ND		mg/kg	0.0016	0.00017	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0032	0.00031	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0032	0.00054	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-04
Client ID: PB-884-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 11:30
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/16/21 19:44
Analyst: AJK
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	0.00030	J	mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	0.00069	J	mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	0.00052	J	mg/kg	0.00090	0.00013	1
p/m-Xylene	0.0012	J	mg/kg	0.0018	0.00051	1
o-Xylene	0.00073	J	mg/kg	0.00090	0.00026	1
Xylenes, Total	0.0019	J	mg/kg	0.00090	0.00026	1
Isopropylbenzene	0.00039	J	mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	0.0042		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	0.0064		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	**152**	Q	70-130
Dibromofluoromethane	109		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-05
Client ID: PB-884-26-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 12:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 21:04
Analyst: MV
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00060	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00065	1
1,2-Dibromoethane	ND		mg/kg	0.00060	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00067	1
o-Xylene	ND		mg/kg	0.0012	0.00035	1
Xylenes, Total	ND		mg/kg	0.0012	0.00035	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00040	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	107		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-06
Client ID: PB-884-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 12:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 21:31
Analyst: MV
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00053	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00027	1
Toluene	ND		mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00060	1
o-Xylene	ND		mg/kg	0.0011	0.00031	1
Xylenes, Total	ND		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-07
Client ID: PB-885-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 13:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 21:58
Analyst: MV
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-08
Client ID: PB-885-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 13:30
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 22:26
Analyst: MV
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00099	0.00025	1
Toluene	ND		mg/kg	0.00099	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.00099	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.00099	0.00029	1
Xylenes, Total	ND		mg/kg	0.00099	0.00029	1
Isopropylbenzene	ND		mg/kg	0.00099	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-09
Client ID: PB-885-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 13:45
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 22:53
Analyst: MV
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00056	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00061	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-10
Client ID: PB-885-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 23:21
Analyst: MV
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00056	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00061	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00063	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-11
Client ID: PB-885-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:10
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 23:48
Analyst: MV
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00061	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-12
Client ID: PB-885-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 18:33
Analyst: JC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00042	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00083	0.00021	1
Toluene	ND		mg/kg	0.00083	0.00045	1
1,2-Dibromoethane	ND		mg/kg	0.00042	0.00024	1
Ethylbenzene	ND		mg/kg	0.00083	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00047	1
o-Xylene	ND		mg/kg	0.00083	0.00024	1
Xylenes, Total	ND		mg/kg	0.00083	0.00024	1
Isopropylbenzene	ND		mg/kg	0.00083	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	89		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-13
Client ID: PB-885-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 14:30
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 18:54
Analyst: JC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	86		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-14
Client ID: PB-885-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 14:40
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 19:14
Analyst: JC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00064	1
o-Xylene	ND		mg/kg	0.0012	0.00033	1
Xylenes, Total	ND		mg/kg	0.0012	0.00033	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	88		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-15
Client ID: PB-885-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:50
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 19:35
Analyst: JC
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00053	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00027	1
Toluene	ND		mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00059	1
o-Xylene	ND		mg/kg	0.0011	0.00031	1
Xylenes, Total	ND		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	87		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-16
Client ID: FB-211206
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 15:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/16/21 16:57
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/16/21 13:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-16
Client ID: FB-211206
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 15:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/16/21 09:31
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	111		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2166871

Project Number: 200.00135.005.03 **Report Date:** 12/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/13/21 16:33
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,03,05-11 Batch: WG1582904-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2166871

Project Number: 200.00135.005.03 **Report Date:** 12/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/15/21 06:20
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1583937-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/15/21 18:13
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 12-15 Batch: WG1584189-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	85		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 12/16/21 14:43
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/16/21 13:32

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 16 Batch: WG1584239-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2166871

Project Number: 200.00135.005.03 **Report Date:** 12/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/16/21 08:21
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 16 Batch: WG1584334-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	112		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/16/21 11:47
Analyst: KTD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04 Batch: WG1584805-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	108		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166871

Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,03,05-11 Batch: WG1582904-3 WG1582904-4								
Methyl tert butyl ether	83		83		66-130	0		30
Benzene	106		102		70-130	4		30
1,2-Dichloroethane	88		88		70-130	0		30
Toluene	110		105		70-130	5		30
1,2-Dibromoethane	87		86		70-130	1		30
Ethylbenzene	111		108		70-130	3		30
p/m-Xylene	114		113		70-130	1		30
o-Xylene	110		110		70-130	0		30
Isopropylbenzene	117		116		70-130	1		30
1,3,5-Trimethylbenzene	113		112		70-130	1		30
1,2,4-Trimethylbenzene	109		108		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	91		91		70-130
Toluene-d8	103		103		70-130
4-Bromofluorobenzene	89		90		70-130
Dibromofluoromethane	98		98		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166871

Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1583937-3 WG1583937-4								
Methyl tert butyl ether	98		103		66-130	5		30
Benzene	95		93		70-130	2		30
1,2-Dichloroethane	95		97		70-130	2		30
Toluene	99		97		70-130	2		30
1,2-Dibromoethane	106		112		70-130	6		30
Ethylbenzene	100		98		70-130	2		30
p/m-Xylene	103		100		70-130	3		30
o-Xylene	102		100		70-130	2		30
Isopropylbenzene	104		99		70-130	5		30
1,3,5-Trimethylbenzene	104		100		70-130	4		30
1,2,4-Trimethylbenzene	105		101		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		99		70-130
Toluene-d8	102		102		70-130
4-Bromofluorobenzene	99		99		70-130
Dibromofluoromethane	95		95		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166871

Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 12-15 Batch: WG1584189-3 WG1584189-4								
Methyl tert butyl ether	114		117		66-130	3		30
Benzene	103		106		70-130	3		30
1,2-Dichloroethane	86		88		70-130	2		30
Toluene	102		103		70-130	1		30
1,2-Dibromoethane	94		96		70-130	2		30
Ethylbenzene	101		103		70-130	2		30
p/m-Xylene	102		104		70-130	2		30
o-Xylene	99		101		70-130	2		30
Isopropylbenzene	106		107		70-130	1		30
1,3,5-Trimethylbenzene	103		104		70-130	1		30
1,2,4-Trimethylbenzene	102		103		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	87		87		70-130
Toluene-d8	102		100		70-130
4-Bromofluorobenzene	100		101		70-130
Dibromofluoromethane	85		85		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166871

Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 16		Batch: WG1584239-2						
1,2-Dibromoethane	92		-		80-120	-		20	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166871
Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16 Batch: WG1584334-3 WG1584334-4								
Methyl tert butyl ether	95		100		63-130	5		20
Benzene	100		110		70-130	10		20
1,2-Dichloroethane	110		110		70-130	0		20
Toluene	100		110		70-130	10		20
Ethylbenzene	110		110		70-130	0		20
p/m-Xylene	105		105		70-130	0		20
o-Xylene	105		105		70-130	0		20
Isopropylbenzene	100		110		70-130	10		20
1,3,5-Trimethylbenzene	96		100		64-130	4		20
1,2,4-Trimethylbenzene	96		100		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		108		70-130
Toluene-d8	104		103		70-130
4-Bromofluorobenzene	99		100		70-130
Dibromofluoromethane	104		102		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166871

Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 04 Batch: WG1584805-3 WG1584805-4								
Methyl tert butyl ether	102		100		66-130	2		30
Benzene	99		97		70-130	2		30
1,2-Dichloroethane	96		94		70-130	2		30
Toluene	100		99		70-130	1		30
1,2-Dibromoethane	104		105		70-130	1		30
Ethylbenzene	102		102		70-130	0		30
p/m-Xylene	106		104		70-130	2		30
o-Xylene	106		106		70-130	0		30
Isopropylbenzene	106		101		70-130	5		30
1,3,5-Trimethylbenzene	108		104		70-130	4		30
1,2,4-Trimethylbenzene	108		103		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		92		70-130
Toluene-d8	102		103		70-130
4-Bromofluorobenzene	99		95		70-130
Dibromofluoromethane	97		97		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-01
Client ID: PB-884-22-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 10:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 18:01
Analyst: ALS
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.044	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	112		23-120
2-Fluorobiphenyl	92		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-02
Client ID: PB-884-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 10:45
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 18:25
Analyst: ALS
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.021	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	0.043	J	mg/kg	0.10	0.018	1
Benzo(a)anthracene	0.030	J	mg/kg	0.10	0.020	1
Chrysene	0.021	J	mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	109		23-120
2-Fluorobiphenyl	91		30-120
4-Terphenyl-d14	91		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-03
Client ID: PB-884-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 11:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/16/21 17:24
Analyst: IM
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	73		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-04
Client ID: PB-884-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 11:30
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 18:49
Analyst: ALS
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	0.065	J	mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	0.039	J	mg/kg	0.10	0.017	1
Benzo(a)anthracene	0.028	J	mg/kg	0.10	0.019	1
Chrysene	0.027	J	mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	97		23-120
2-Fluorobiphenyl	79		30-120
4-Terphenyl-d14	75		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-05
Client ID: PB-884-26-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 12:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/16/21 17:48
Analyst: IM
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	0.025	J	mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	75		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-06
Client ID: PB-884-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 12:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 14:23
Analyst: SLR
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	73		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-07
Client ID: PB-885-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 13:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/16/21 02:08
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	101		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	84		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-08
Client ID: PB-885-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 13:30
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 14:46
Analyst: SLR
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.031	J	mg/kg	0.12	0.022	1
Chrysene	0.036	J	mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.075	J	mg/kg	0.12	0.032	1
Benzo(a)pyrene	0.054	J	mg/kg	0.15	0.047	1
Benzo(ghi)perylene	0.048	J	mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	60		23-120
2-Fluorobiphenyl	61		30-120
4-Terphenyl-d14	57		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-09
Client ID: PB-885-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 13:45
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 15:10
Analyst: SLR
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	77		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-10
Client ID: PB-885-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/16/21 00:08
Analyst: SLR
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	98		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	80		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-11
Client ID: PB-885-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:10
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 15:34
Analyst: SLR
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 09:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	65		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-12
Client ID: PB-885-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 15:57
Analyst: SLR
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 09:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.35	0.043	2
Fluorene	ND		mg/kg	0.35	0.034	2
Phenanthrene	ND		mg/kg	0.21	0.043	2
Anthracene	ND		mg/kg	0.21	0.069	2
Pyrene	ND		mg/kg	0.21	0.035	2
Benzo(a)anthracene	ND		mg/kg	0.21	0.040	2
Chrysene	ND		mg/kg	0.21	0.037	2
Benzo(b)fluoranthene	ND		mg/kg	0.21	0.060	2
Benzo(a)pyrene	ND		mg/kg	0.28	0.086	2
Benzo(ghi)perylene	ND		mg/kg	0.28	0.042	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	51		23-120
2-Fluorobiphenyl	50		30-120
4-Terphenyl-d14	45		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-13
Client ID: PB-885-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:30
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 23:44
Analyst: SLR
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 09:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	75		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-14
Client ID: PB-885-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:40
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/16/21 02:56
Analyst: SLR
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 09:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.021	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	99		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	78		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-15
Client ID: PB-885-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:50
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/16/21 00:32
Analyst: SLR
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 09:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.21	0.025	1
Fluorene	ND		mg/kg	0.21	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.041	1
Pyrene	ND		mg/kg	0.12	0.021	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.024	1
Chrysene	ND		mg/kg	0.12	0.022	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.035	1
Benzo(a)pyrene	ND		mg/kg	0.17	0.051	1
Benzo(ghi)perylene	ND		mg/kg	0.17	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	96		23-120
2-Fluorobiphenyl	76		30-120
4-Terphenyl-d14	75		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-16
Client ID: FB-211206
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 15:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/13/21 12:29
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 12/11/21 21:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	64		23-120
2-Fluorobiphenyl	82		15-120
4-Terphenyl-d14	104		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 12/14/21 17:24
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 12/11/21 21:11

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 16 Batch: WG1582162-1					
Naphthalene	0.12		ug/l	0.10	0.05
Fluorene	0.01	J	ug/l	0.10	0.01
Phenanthrene	0.10		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	0.02	J	ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	59		23-120
2-Fluorobiphenyl	73		15-120
4-Terphenyl-d14	72		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/15/21 07:59
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-10 Batch: WG1582958-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.027
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	106		23-120
2-Fluorobiphenyl	91		30-120
4-Terphenyl-d14	95		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/15/21 23:18
Analyst: SLR

Extraction Method: EPA 3546
Extraction Date: 12/14/21 09:53

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 11-15 Batch: WG1583017-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.027
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	91		30-120
4-Terphenyl-d14	95		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166871
Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 16 Batch: WG1582162-2 WG1582162-3								
Naphthalene	78		87		40-140	11		40
Fluorene	93		95		40-140	2		40
Phenanthrene	91		92		40-140	1		40
Anthracene	96		97		40-140	1		40
Pyrene	105		104		26-127	1		40
Benzo(a)anthracene	99		97		40-140	2		40
Chrysene	92		92		40-140	0		40
Benzo(b)fluoranthene	109		109		40-140	0		40
Benzo(a)pyrene	105		103		40-140	2		40
Benzo(ghi)perylene	90		88		40-140	2		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	68		77		23-120
2-Fluorobiphenyl	88		97		15-120
4-Terphenyl-d14	114		112		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166871

Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 Batch: WG1582958-2 WG1582958-3								
Naphthalene	80		79		40-140	1		50
Fluorene	88		88		40-140	0		50
Phenanthrene	83		84		40-140	1		50
Anthracene	85		84		40-140	1		50
Pyrene	86		86		35-142	0		50
Benzo(a)anthracene	87		86		40-140	1		50
Chrysene	81		81		40-140	0		50
Benzo(b)fluoranthene	82		81		40-140	1		50
Benzo(a)pyrene	74		74		40-140	0		50
Benzo(ghi)perylene	83		81		40-140	2		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	97		98		23-120
2-Fluorobiphenyl	83		84		30-120
4-Terphenyl-d14	88		86		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166871
Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 11-15 Batch: WG1583017-2 WG1583017-3								
Naphthalene	84		75		40-140	11		50
Fluorene	88		80		40-140	10		50
Phenanthrene	87		78		40-140	11		50
Anthracene	86		79		40-140	8		50
Pyrene	86		76		35-142	12		50
Benzo(a)anthracene	93		82		40-140	13		50
Chrysene	89		80		40-140	11		50
Benzo(b)fluoranthene	95		88		40-140	8		50
Benzo(a)pyrene	90		81		40-140	11		50
Benzo(ghi)perylene	102		88		40-140	15		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	78		71		23-120
2-Fluorobiphenyl	90		78		30-120
4-Terphenyl-d14	91		81		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-01
Client ID: PB-884-22-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 10:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.77		mg/kg	2.16	0.116	1	12/16/21 07:20	12/19/21 15:28	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-02
Client ID: PB-884-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 10:45
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.61		mg/kg	2.04	0.110	1	12/16/21 07:20	12/19/21 15:33	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-03
Client ID: PB-884-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 11:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.38		mg/kg	2.03	0.109	1	12/16/21 07:20	12/19/21 15:38	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-04
Client ID: PB-884-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 11:30
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	89.0		mg/kg	9.96	0.534	5	12/16/21 07:20	12/19/21 17:55	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-05
Client ID: PB-884-26-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 12:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	26.5		mg/kg	2.31	0.124	1	12/16/21 07:20	12/19/21 15:47	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-06
Client ID: PB-884-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 12:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.58		mg/kg	1.99	0.107	1	12/16/21 07:20	12/19/21 15:52	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-07
Client ID: PB-885-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 13:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	150		mg/kg	11.1	0.597	5	12/16/21 07:20	12/19/21 17:59	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-08
Client ID: PB-885-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 13:30
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	43.9		mg/kg	11.3	0.604	5	12/16/21 07:20	12/19/21 18:04	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-09
Client ID: PB-885-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 13:45
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	17.4		mg/kg	2.15	0.115	1	12/16/21 07:20	12/19/21 16:07	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-10
Client ID: PB-885-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 14:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	8.76	J	mg/kg	11.4	0.613	5	12/16/21 07:20	12/19/21 18:21	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-11
Client ID: PB-885-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 14:10
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.68		mg/kg	2.05	0.110	1	12/16/21 07:20	12/19/21 17:21	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-12
Client ID: PB-885-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 14:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	9.07		mg/kg	2.01	0.108	1	12/16/21 07:20	12/19/21 17:26	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-13
Client ID: PB-885-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 14:30
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.61		mg/kg	2.39	0.128	1	12/16/21 07:20	12/19/21 17:31	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-14
Client ID: PB-885-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 14:40
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.04		mg/kg	2.03	0.109	1	12/16/21 07:20	12/19/21 17:35	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-15
Client ID: PB-885-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 14:50
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.43		mg/kg	2.50	0.134	1	12/16/21 07:20	12/19/21 17:50	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-16
Client ID: FB-211206
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 15:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	12/14/21 05:12	12/17/21 02:24	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 16 Batch: WG1582832-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	12/14/21 05:12	12/16/21 23:54	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-15 Batch: WG1583249-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	12/16/21 07:20	12/19/21 14:27	1,6010D	DL

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166871

Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 16 Batch: WG1582832-2								
Lead, Total	100		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-15 Batch: WG1583249-2 SRM Lot Number: D113-540								
Lead, Total	85		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166871
Report Date: 12/21/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 16 QC Batch ID: WG1582832-3 WG1582832-4 QC Sample: L2167147-05 Client ID: MS Sample												
Lead, Total	1.973	530	492.8	93		482.8	91		75-125	2		20
Total Metals - Mansfield Lab Associated sample(s): 01-15 QC Batch ID: WG1583249-3 QC Sample: L2166856-01 Client ID: MS Sample												
Lead, Total	39.1	182	173	**74**	Q	-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166871

Report Date: 12/21/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-15 QC Batch ID: WG1583249-4 QC Sample: L2166856-01 Client ID: DUP Sample						
Lead, Total	39.1	41.2	mg/kg	5		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-01
Client ID: PB-884-22-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/06/21 10:20
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.1		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-02
Client ID: PB-884-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 10:45
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.1		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-03
Client ID: PB-884-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/06/21 11:00
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.5		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-04
Client ID: PB-884-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/06/21 11:30
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.5		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-05
Client ID: PB-884-26-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/06/21 12:00
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-06
Client ID: PB-884-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/06/21 12:20
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.4		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-07
Client ID: PB-885-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/06/21 13:20
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.6		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-08
Client ID: PB-885-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/06/21 13:30
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.0		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-09
Client ID: PB-885-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/06/21 13:45
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.1		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-10
Client ID: PB-885-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/06/21 14:00
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-11
Client ID: PB-885-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/06/21 14:10
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.9		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-12
Client ID: PB-885-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/06/21 14:20
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.7		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-13
Client ID: PB-885-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/06/21 14:30
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.8		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-14
Client ID: PB-885-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/06/21 14:40
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.1		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-15
Client ID: PB-885-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/06/21 14:50
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.7		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166871

Report Date: 12/21/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-15 QC Batch ID: WG1580494-1 QC Sample: L2166871-01 Client ID: PB-884-22-SS01						
Solids, Total	91.1	89.4	%	2		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166871
Report Date: 12/21/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2166871-01A	Vial MeOH preserved	A	NA		2.8	Y	Absent		PA-8260HLW(14)
L2166871-01B	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-01C	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-01D	Plastic 2oz unpreserved for TS	A	NA		2.8	Y	Absent		TS(7)
L2166871-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.8	Y	Absent		PB-TI(180)
L2166871-01F	Glass 120ml/4oz unpreserved	A	NA		2.8	Y	Absent		PA-PAH(14)
L2166871-02A	Vial MeOH preserved	A	NA		2.8	Y	Absent		PA-8260HLW(14)
L2166871-02B	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-02C	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-02D	Plastic 2oz unpreserved for TS	A	NA		2.8	Y	Absent		TS(7)
L2166871-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.8	Y	Absent		PB-TI(180)
L2166871-02F	Glass 120ml/4oz unpreserved	A	NA		2.8	Y	Absent		PA-PAH(14)
L2166871-03A	Vial MeOH preserved	A	NA		2.8	Y	Absent		PA-8260HLW(14)
L2166871-03B	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-03C	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-03D	Plastic 2oz unpreserved for TS	A	NA		2.8	Y	Absent		TS(7)
L2166871-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.8	Y	Absent		PB-TI(180)
L2166871-03F	Glass 120ml/4oz unpreserved	A	NA		2.8	Y	Absent		PA-PAH(14)
L2166871-04A	Vial MeOH preserved	A	NA		2.8	Y	Absent		PA-8260HLW(14)
L2166871-04B	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-04C	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166871
Report Date: 12/21/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2166871-04D	Plastic 2oz unpreserved for TS	A	NA		2.8	Y	Absent		TS(7)
L2166871-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.8	Y	Absent		PB-TI(180)
L2166871-04F	Glass 120ml/4oz unpreserved	A	NA		2.8	Y	Absent		PA-PAH(14)
L2166871-05A	Vial MeOH preserved	B	NA		2.7	Y	Absent		PA-8260HLW(14)
L2166871-05B	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-05C	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-05D	Plastic 2oz unpreserved for TS	B	NA		2.7	Y	Absent		TS(7)
L2166871-05E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.7	Y	Absent		PB-TI(180)
L2166871-05F	Glass 120ml/4oz unpreserved	B	NA		2.7	Y	Absent		PA-PAH(14)
L2166871-06A	Vial MeOH preserved	A	NA		2.8	Y	Absent		PA-8260HLW(14)
L2166871-06B	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-06C	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-06D	Plastic 2oz unpreserved for TS	A	NA		2.8	Y	Absent		TS(7)
L2166871-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.8	Y	Absent		PB-TI(180)
L2166871-06F	Glass 120ml/4oz unpreserved	A	NA		2.8	Y	Absent		PA-PAH(14)
L2166871-07A	Vial MeOH preserved	C	NA		2.9	Y	Absent		PA-8260HLW(14)
L2166871-07B	Vial water preserved	C	NA		2.9	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-07C	Vial water preserved	C	NA		2.9	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-07D	Plastic 2oz unpreserved for TS	C	NA		2.9	Y	Absent		TS(7)
L2166871-07E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.9	Y	Absent		PB-TI(180)
L2166871-07F	Glass 120ml/4oz unpreserved	C	NA		2.9	Y	Absent		PA-PAH(14)
L2166871-08A	Vial MeOH preserved	C	NA		2.9	Y	Absent		PA-8260HLW(14)
L2166871-08B	Vial water preserved	C	NA		2.9	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-08C	Vial water preserved	C	NA		2.9	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-08D	Plastic 2oz unpreserved for TS	C	NA		2.9	Y	Absent		TS(7)
L2166871-08E	Glass 120ml/4oz unpreserved	C	NA		2.9	Y	Absent		PB-TI(180)
L2166871-08F	Glass 120ml/4oz unpreserved	C	NA		2.9	Y	Absent		PA-PAH(14)
L2166871-09A	Vial MeOH preserved	C	NA		2.9	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166871
Report Date: 12/21/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2166871-09B	Vial water preserved	C	NA		2.9	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-09C	Vial water preserved	C	NA		2.9	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-09D	Plastic 2oz unpreserved for TS	C	NA		2.9	Y	Absent		TS(7)
L2166871-09E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.9	Y	Absent		PB-TI(180)
L2166871-09F	Glass 120ml/4oz unpreserved	C	NA		2.9	Y	Absent		PA-PAH(14)
L2166871-10A	Vial MeOH preserved	C	NA		2.9	Y	Absent		PA-8260HLW(14)
L2166871-10B	Vial water preserved	C	NA		2.9	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-10C	Vial water preserved	C	NA		2.9	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-10D	Plastic 2oz unpreserved for TS	C	NA		2.9	Y	Absent		TS(7)
L2166871-10E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.9	Y	Absent		PB-TI(180)
L2166871-10F	Glass 120ml/4oz unpreserved	C	NA		2.9	Y	Absent		PA-PAH(14)
L2166871-11A	Vial MeOH preserved	B	NA		2.7	Y	Absent		PA-8260HLW(14)
L2166871-11B	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-11C	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-11D	Plastic 2oz unpreserved for TS	B	NA		2.7	Y	Absent		TS(7)
L2166871-11E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.7	Y	Absent		PB-TI(180)
L2166871-11F	Glass 120ml/4oz unpreserved	B	NA		2.7	Y	Absent		PA-PAH(14)
L2166871-12A	Vial MeOH preserved	B	NA		2.7	Y	Absent		PA-8260HLW(14)
L2166871-12B	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-12C	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-12D	Plastic 2oz unpreserved for TS	B	NA		2.7	Y	Absent		TS(7)
L2166871-12E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.7	Y	Absent		PB-TI(180)
L2166871-12F	Glass 120ml/4oz unpreserved	B	NA		2.7	Y	Absent		PA-PAH(14)
L2166871-13A	Vial MeOH preserved	B	NA		2.7	Y	Absent		PA-8260HLW(14)
L2166871-13B	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-13C	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-13D	Plastic 2oz unpreserved for TS	B	NA		2.7	Y	Absent		TS(7)
L2166871-13E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.7	Y	Absent		PB-TI(180)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166871
Report Date: 12/21/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2166871-13F	Glass 120ml/4oz unpreserved	B	NA		2.7	Y	Absent		PA-PAH(14)
L2166871-14A	Vial MeOH preserved	B	NA		2.7	Y	Absent		PA-8260HLW(14)
L2166871-14B	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-14C	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-14D	Plastic 2oz unpreserved for TS	B	NA		2.7	Y	Absent		TS(7)
L2166871-14E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.7	Y	Absent		PB-TI(180)
L2166871-14F	Glass 120ml/4oz unpreserved	B	NA		2.7	Y	Absent		PA-PAH(14)
L2166871-15A	Vial MeOH preserved	B	NA		2.7	Y	Absent		PA-8260HLW(14)
L2166871-15B	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-15C	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-15D	Plastic 2oz unpreserved for TS	B	NA		2.7	Y	Absent		TS(7)
L2166871-15E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.7	Y	Absent		PB-TI(180)
L2166871-15F	Glass 120ml/4oz unpreserved	B	NA		2.7	Y	Absent		PA-PAH(14)
L2166871-16A	Vial HCl preserved	C	NA		2.9	Y	Absent		PA-8260(14)
L2166871-16B	Vial HCl preserved	C	NA		2.9	Y	Absent		PA-8260(14)
L2166871-16C	Vial HCl preserved	C	NA		2.9	Y	Absent		8011(14)
L2166871-16D	Plastic 60ml unpreserved	C	7	7	2.9	Y	Absent		ARCHIVE()
L2166871-16F	Plastic 250ml HNO3 preserved	C	<2	<2	2.9	Y	Absent		PB-6020T-PPB(180)
L2166871-16G	Amber 250ml unpreserved	C	7	7	2.9	Y	Absent		PA-PAHSIM-LVI(7)
L2166871-16H	Amber 250ml unpreserved	C	7	7	2.9	Y	Absent		PA-PAHSIM-LVI(7)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166871
Project Number:	200.00135.005.03	**Report Date:**	12/21/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166871
Project Number:	200.00135.005.03	**Report Date:**	12/21/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166871
Project Number:	200.00135.005.03	**Report Date:**	12/21/21

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166871
Project Number:	200.00135.005.03	**Report Date:**	12/21/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/7/21

ALPHA Job #: L2166871

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist		Sample Specific Comments	TOTAL # BOTTLES
66871-01	PB-881-22-5501	12/6	1020	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-02	PB-881-07-5501		1045	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-03	PB-884-05-5501		1100	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-04	PB-884-06-5501		1130	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-05	PB-884-26-5501		1200	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-06	PB-881-10-5501		1220	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-07	PB-885-01-5501		1320	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-08	PB-885-02-5501		1330	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-09	PB-885-07-5501		1345	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-10	PB-885-16-5501		1400	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
	Container Type					G	G	G	-	-	-	-	-	-	-	-	-		
	Preservative					F	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	12/6 1625		12/6 1625
	12/6 1730		12/6 1730
	12/6-2001		12/6/21 2330
Paul Mazzella	12/7/21 0132		12/7/21 0132

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-07(HW)
(rev. 1-JAN-12)

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/7/21

ALPHA Job #: L2166821

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist		Sample Specific Comments	TOTAL # BOTTLES
66871-11	PB-885-03-5501	12/6	1410	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		8
-12	PB-885-08-5501		1420	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-13	PB-885-09-5501		1430	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-14	PB-885-10-5501		1440	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-15	PB-885-11-5501		1450	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-16	FB-211206		1400	W	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		7
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		

Container Type	G	G	G	-	-	-	-	-	-	-	-	-	
Preservative	F	A	A	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
	12/6 1645		12/6 16:25
	12/6 1730	12-6-2001	12-6 1730
Paul Mazzella	12/7/21 0832	Paul Mazzella	12/6/21 2030
			12/7/21 0832

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(LIAL) (rev. 8-JAN-98)

PADEP Short List Analytical List:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

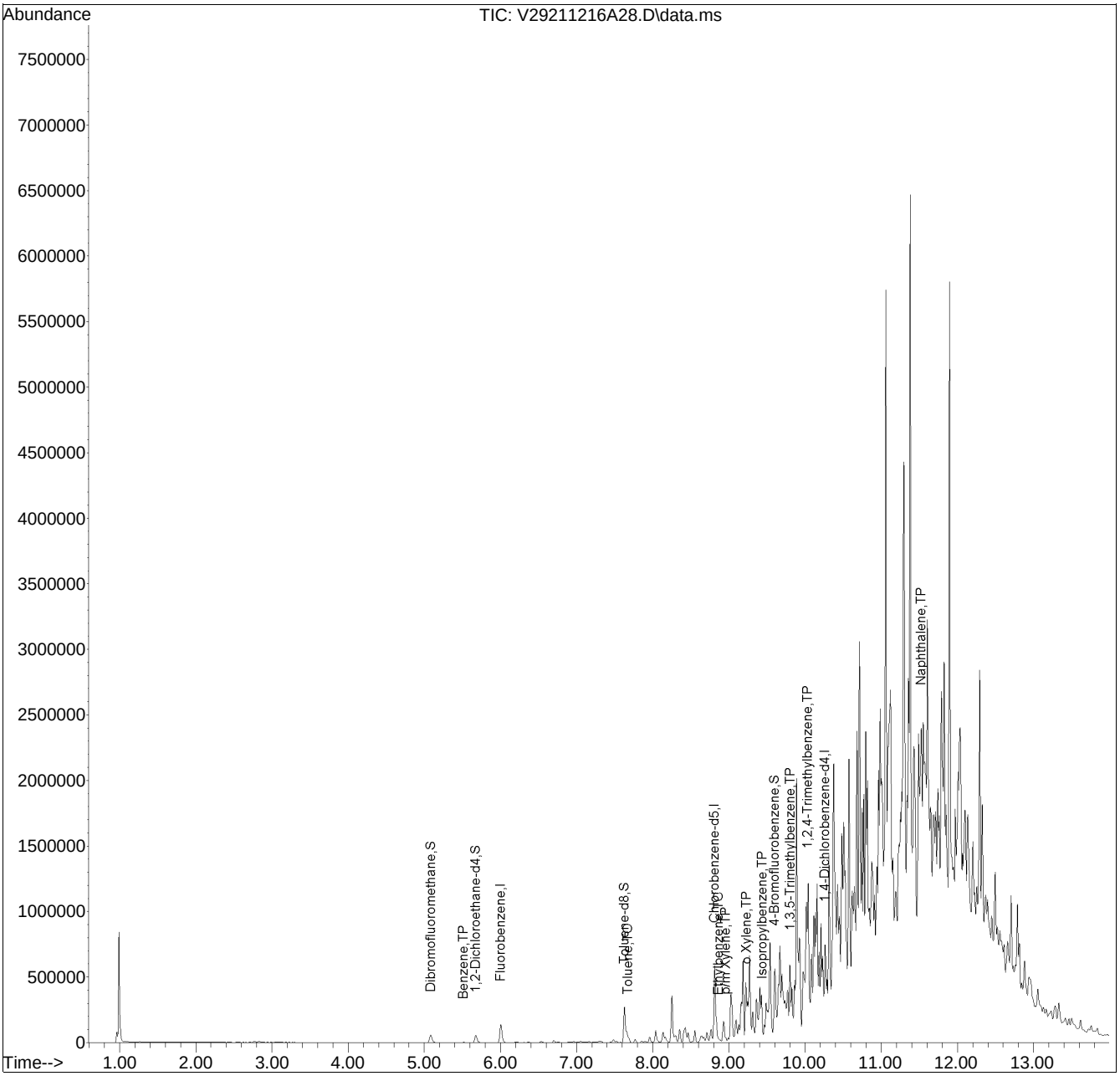
6. Waste Oil – benzene, toluene, ethyl benzene, cumene, naphthalene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, lead

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA129\2021\211216A\
Data File : V29211216A28.D
Acq On : 16 Dec 2021 07:44 pm
Operator : VOA129:AJK
Sample : L2166871-04,31,5.79,5,,B
Misc : WG1584805,ICAL18564
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Dec 17 09:57:51 2021
Quant Method : I:\VOLATILES\VOA129\2021\211216A\V129_211213N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Dec 14 10:56:36 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list16A\V29211216A02.D•



V129_211213N_8260.m Fri Dec 17 16:48:23 2021 SVOA-INSTRUMENT Page: 2

ANALYTICAL REPORT

Lab Number:	L2167219
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.005.03
Report Date:	12/22/21

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167219
Report Date: 12/22/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2167219-01	PB-885-22-SS01	SOIL	PHILADELPHIA, PA	12/07/21 09:10	12/07/21
L2167219-02	PB-885-23-SS01	SOIL	PHILADELPHIA, PA	12/07/21 09:30	12/07/21
L2167219-03	PB-885-26-SS01	SOIL	PHILADELPHIA, PA	12/07/21 09:45	12/07/21
L2167219-04	PB-885-21-SS01	SOIL	PHILADELPHIA, PA	12/07/21 10:10	12/07/21
L2167219-05	PB-885-06-SS01	SOIL	PHILADELPHIA, PA	12/07/21 10:40	12/07/21
L2167219-06	PB-253-01-SS01	SOIL	PHILADELPHIA, PA	12/07/21 12:30	12/07/21
L2167219-07	PB-253-02-SS01	SOIL	PHILADELPHIA, PA	12/07/21 13:00	12/07/21
L2167219-08	PB-253-03-SS01	SOIL	PHILADELPHIA, PA	12/07/21 13:10	12/07/21
L2167219-09	PB-253-04-SS01	SOIL	PHILADELPHIA, PA	12/07/21 13:40	12/07/21
L2167219-10	PB-253-05-SS01	SOIL	PHILADELPHIA, PA	12/07/21 14:00	12/07/21
L2167219-11	PB-253-06-SS01	SOIL	PHILADELPHIA, PA	12/07/21 14:10	12/07/21
L2167219-12	PB-253-07-SS01	SOIL	PHILADELPHIA, PA	12/07/21 14:20	12/07/21
L2167219-13	PB-253-08-SS01	SOIL	PHILADELPHIA, PA	12/07/21 14:30	12/07/21
L2167219-14	PB-253-09-SS01	SOIL	PHILADELPHIA, PA	12/07/21 14:40	12/07/21
L2167219-15	PB-253-10-SS01	SOIL	PHILADELPHIA, PA	12/07/21 14:50	12/07/21
L2167219-16	DUP-23	SOIL	PHILADELPHIA, PA	12/07/21 00:00	12/07/21
L2167219-17	FB-211207	WATER	PHILADELPHIA, PA	12/07/21 15:00	12/07/21
L2167219-18	TB-211207	WATER	PHILADELPHIA, PA	12/07/21 00:00	12/07/21

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167219
Project Number:	200.00135.005.03	**Report Date:**	12/22/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167219
Project Number:	200.00135.005.03	**Report Date:**	12/22/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2167219-06: The sample was analyzed as a High Level Methanol in order to quantitate results within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial Low Level analysis. The results of both analyses are reported. Differences were noted between the results of the Volatile Organics by EPA Method 5035/8260 High and Low Level analyses which have been attributed to vial discrepancies.

L2167219-07: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (144%) due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2167219-10: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (310%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2167219-13: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (163%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2167219-14: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (138%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2167219-15 and -16: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of non-target compounds in the sample.

L2167219-15: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (158%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167219
Project Number:	200.00135.005.03	**Report Date:**	12/22/21

Case Narrative (continued)

L2167219-16: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (139%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Semivolatile Organics

L2167219-16D: The sample has elevated detection limits due to the dilution required by the sample matrix.

L2167219-16D: The surrogate recoveries are below the acceptance criteria for nitrobenzene-d5 (0%), 2-fluorobiphenyl (0%) and 4-terphenyl-d14 (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

Semivolatile Organics by SIM

The WG1582162-1 Method Blank, associated with L2167219-17, has concentrations above the reporting limits for Naphthalene and Phenanthrene. Since the associated sample concentrations are either greater than 10x the blank concentrations or non-detect to the RL for these target analytes, no corrective action is required. Any results detected below the reporting limit are qualified with a "B".

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 12/22/21

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-01
Client ID: PB-885-22-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 09:10
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/17/21 07:49
Analyst: MV
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-02
Client ID: PB-885-23-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 09:30
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/17/21 13:56
Analyst: MKS
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00064	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-03
Client ID: PB-885-26-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 09:45
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/17/21 14:22
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00060	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00065	1
1,2-Dibromoethane	ND		mg/kg	0.00060	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00067	1
o-Xylene	ND		mg/kg	0.0012	0.00035	1
Xylenes, Total	ND		mg/kg	0.0012	0.00035	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00040	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-04
Client ID: PB-885-21-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 10:10
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/17/21 14:48
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00023	1
Benzene	ND		mg/kg	0.00056	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00061	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00063	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-05
Client ID: PB-885-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 10:40
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 16:05
Analyst: AJK
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00056	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	110		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-06
Client ID: PB-253-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 12:30
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 13:07
Analyst: MV
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00083	J	mg/kg	0.0023	0.00023	1
Benzene	0.84	E	mg/kg	0.00056	0.00019	1
Toluene	0.11		mg/kg	0.0011	0.00061	1
Ethylbenzene	1.1	E	mg/kg	0.0011	0.00016	1
Isopropylbenzene	0.086		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.14		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	0.93	E	mg/kg	0.0023	0.00038	1
Naphthalene	0.071		mg/kg	0.0045	0.00074	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	114		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	81		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-06 D
Client ID: PB-253-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 12:30
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/18/21 21:25
Analyst: MKS
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.26	0.026	2
Benzene	3.5		mg/kg	0.065	0.022	2
Toluene	0.70		mg/kg	0.13	0.071	2
Ethylbenzene	9.4		mg/kg	0.13	0.018	2
Isopropylbenzene	1.0		mg/kg	0.13	0.014	2
1,3,5-Trimethylbenzene	1.9		mg/kg	0.26	0.025	2
1,2,4-Trimethylbenzene	14.		mg/kg	0.26	0.043	2
Naphthalene	0.75		mg/kg	0.52	0.084	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	91		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-07
Client ID: PB-253-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 13:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 17:54
Analyst: MV
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.15	0.015	1
Benzene	0.53		mg/kg	0.038	0.012	1
Toluene	0.53		mg/kg	0.075	0.041	1
Ethylbenzene	6.4		mg/kg	0.075	0.010	1
Isopropylbenzene	2.3		mg/kg	0.075	0.0082	1
1,3,5-Trimethylbenzene	12.		mg/kg	0.15	0.014	1
1,2,4-Trimethylbenzene	31.	E	mg/kg	0.15	0.025	1
Naphthalene	29.	E	mg/kg	0.30	0.049	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	122		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	**144**	Q	70-130
Dibromofluoromethane	113		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-07 D
Client ID: PB-253-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 13:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/18/21 21:48
Analyst: MKS
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,4-Trimethylbenzene	34.		mg/kg	1.5	0.25	10
Naphthalene	48.		mg/kg	3.0	0.49	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	120		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-08
Client ID: PB-253-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 13:10
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/18/21 19:55
Analyst: MKS
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
Toluene	ND		mg/kg	0.00097	0.00052	1
Ethylbenzene	ND		mg/kg	0.00097	0.00014	1
Isopropylbenzene	ND		mg/kg	0.00097	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00019	1
1,2,4-Trimethylbenzene	0.00034	J	mg/kg	0.0019	0.00032	1
Naphthalene	ND		mg/kg	0.0039	0.00063	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	114		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-09
Client ID: PB-253-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 13:40
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/18/21 20:17
Analyst: MKS
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00043	0.00014	1
Toluene	ND		mg/kg	0.00085	0.00046	1
Ethylbenzene	ND		mg/kg	0.00085	0.00012	1
Isopropylbenzene	ND		mg/kg	0.00085	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00028	1
Naphthalene	ND		mg/kg	0.0034	0.00055	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	112		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-10
Client ID: PB-253-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 14:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/21/21 15:10
Analyst: KJD
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00056	0.00019	1
Toluene	ND		mg/kg	0.0011	0.00061	1
Ethylbenzene	0.0084		mg/kg	0.0011	0.00016	1
Isopropylbenzene	0.043		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.015		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	0.19		mg/kg	0.0023	0.00038	1
Naphthalene	0.019		mg/kg	0.0045	0.00073	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	115		70-130
4-Bromofluorobenzene	**310**	Q	70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-11
Client ID: PB-253-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 14:10
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/18/21 20:40
Analyst: MKS
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00057	0.00019	1
Toluene	ND		mg/kg	0.0011	0.00061	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1
Naphthalene	ND		mg/kg	0.0045	0.00074	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-12
Client ID: PB-253-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 14:20
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/18/21 21:03
Analyst: MKS
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0026	0.00026	1
Benzene	0.00047	J	mg/kg	0.00064	0.00021	1
Toluene	ND		mg/kg	0.0013	0.00070	1
Ethylbenzene	0.0020		mg/kg	0.0013	0.00018	1
Isopropylbenzene	0.0014		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	0.0023	J	mg/kg	0.0026	0.00025	1
1,2,4-Trimethylbenzene	0.0015	J	mg/kg	0.0026	0.00043	1
Naphthalene	0.038		mg/kg	0.0051	0.00084	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	109		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-13
Client ID: PB-253-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 14:30
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 18:17
Analyst: MV
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.014	1
Benzene	ND		mg/kg	0.034	0.011	1
Toluene	ND		mg/kg	0.067	0.036	1
Ethylbenzene	0.12		mg/kg	0.067	0.0095	1
Isopropylbenzene	0.38		mg/kg	0.067	0.0073	1
1,3,5-Trimethylbenzene	1.9		mg/kg	0.13	0.013	1
1,2,4-Trimethylbenzene	4.4		mg/kg	0.13	0.022	1
Naphthalene	1.9		mg/kg	0.27	0.044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	**163**	Q	70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-14
Client ID: PB-253-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 14:40
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 12:43
Analyst: MV
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0028	0.00028	1
Benzene	ND		mg/kg	0.00069	0.00023	1
Toluene	ND		mg/kg	0.0014	0.00075	1
Ethylbenzene	0.0014		mg/kg	0.0014	0.00019	1
Isopropylbenzene	0.015		mg/kg	0.0014	0.00015	1
1,3,5-Trimethylbenzene	0.0052		mg/kg	0.0028	0.00027	1
1,2,4-Trimethylbenzene	0.010		mg/kg	0.0028	0.00046	1
Naphthalene	0.014		mg/kg	0.0055	0.00090	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	**138**	Q	70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-15
Client ID: PB-253-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 14:50
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 18:40
Analyst: MV
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.013	1
Benzene	ND		mg/kg	0.032	0.011	1
Toluene	ND		mg/kg	0.065	0.035	1
Ethylbenzene	0.033	J	mg/kg	0.065	0.0092	1
Isopropylbenzene	2.4		mg/kg	0.065	0.0071	1
1,3,5-Trimethylbenzene	0.033	J	mg/kg	0.13	0.012	1
1,2,4-Trimethylbenzene	0.18		mg/kg	0.13	0.022	1
Naphthalene	0.91		mg/kg	0.26	0.042	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	**158**	Q	70-130
Dibromofluoromethane	112		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-16
Client ID: DUP-23
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 00:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 19:02
Analyst: MV
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.014	1
Benzene	ND		mg/kg	0.034	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.067	0.017	1
Toluene	ND		mg/kg	0.067	0.036	1
1,2-Dibromoethane	ND		mg/kg	0.034	0.020	1
Ethylbenzene	0.016	J	mg/kg	0.067	0.0095	1
p/m-Xylene	ND		mg/kg	0.13	0.038	1
o-Xylene	0.036	J	mg/kg	0.067	0.020	1
Xylenes, Total	0.036	J	mg/kg	0.067	0.020	1
Isopropylbenzene	2.0		mg/kg	0.067	0.0073	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.13	0.013	1
1,2,4-Trimethylbenzene	0.054	J	mg/kg	0.13	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	**139**	Q	70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-17
Client ID: FB-211207
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 15:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/19/21 14:11
Analyst: GT

Extraction Method: EPA 8011
Extraction Date: 12/19/21 09:20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-17
Client ID: FB-211207
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 15:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/17/21 09:57
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	109		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-18
Client ID: TB-211207
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 00:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/19/21 14:20
Analyst: GT

Extraction Method: EPA 8011
Extraction Date: 12/19/21 09:20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-18
Client ID: TB-211207
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 00:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/22/21 11:57
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	114		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2167219

Project Number: 200.00135.005.03 **Report Date:** 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/17/21 09:33
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 17 Batch: WG1584911-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/17/21 06:57
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-04 Batch: WG1585060-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 12/19/21 11:13
Analyst: GT

Extraction Method: EPA 8011
Extraction Date: 12/19/21 09:20

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 17-18 Batch: WG1585167-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/18/21 17:40
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 06-07 Batch: WG1585263-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
Toluene	ND		mg/kg	0.050	0.027
Ethylbenzene	ND		mg/kg	0.050	0.0070
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017
Naphthalene	ND		mg/kg	0.20	0.032

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2167219

Project Number: 200.00135.005.03 **Report Date:** 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/18/21 17:40
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 08-09,11-12 Batch: WG1585264-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
Toluene	ND		mg/kg	0.0010	0.00054
Ethylbenzene	ND		mg/kg	0.0010	0.00014
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033
Naphthalene	ND		mg/kg	0.0040	0.00065

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/20/21 09:14
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 07,13,15-16 Batch: WG1585981-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017
Naphthalene	ND		mg/kg	0.20	0.032

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	110		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/19/21 11:53
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 05 Batch: WG1586009-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/20/21 09:21
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 06,14 Batch: WG1586011-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
Toluene	ND		mg/kg	0.0010	0.00054
Ethylbenzene	ND		mg/kg	0.0010	0.00014
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033
Naphthalene	ND		mg/kg	0.0040	0.00065

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/21/21 07:14
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 10 Batch: WG1586225-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
Toluene	ND		mg/kg	0.0010	0.00054
Ethylbenzene	ND		mg/kg	0.0010	0.00014
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033
Naphthalene	ND		mg/kg	0.0040	0.00065

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2167219

Project Number: 200.00135.005.03 **Report Date:** 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/22/21 08:29
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 18 Batch: WG1586758-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	112		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167219
Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 17 Batch: WG1584911-3 WG1584911-4								
Methyl tert butyl ether	93		98		63-130	5		20
Benzene	100		100		70-130	0		20
1,2-Dichloroethane	99		100		70-130	1		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	100		100		70-130	0		20
Isopropylbenzene	100		100		70-130	0		20
1,3,5-Trimethylbenzene	100		100		64-130	0		20
1,2,4-Trimethylbenzene	100		100		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		97		70-130
Toluene-d8	102		101		70-130
4-Bromofluorobenzene	103		99		70-130
Dibromofluoromethane	99		99		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167219
Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-04 Batch: WG1585060-3 WG1585060-4								
Methyl tert butyl ether	78		93		66-130	18		30
Benzene	101		93		70-130	8		30
1,2-Dichloroethane	85		83		70-130	2		30
Toluene	103		94		70-130	9		30
1,2-Dibromoethane	89		86		70-130	3		30
Ethylbenzene	108		97		70-130	11		30
p/m-Xylene	110		99		70-130	11		30
o-Xylene	108		99		70-130	9		30
Isopropylbenzene	106		95		70-130	11		30
1,3,5-Trimethylbenzene	106		95		70-130	11		30
1,2,4-Trimethylbenzene	105		96		70-130	9		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	92		95		70-130
Toluene-d8	106		103		70-130
4-Bromofluorobenzene	97		96		70-130
Dibromofluoromethane	95		97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 17-18 Batch: WG1585167-2								
1,2-Dibromoethane	106		-		80-120	-		20	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167219
Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 06-07 Batch: WG1585263-3 WG1585263-4								
Methyl tert butyl ether	97		93		66-130	4		30
Benzene	88		90		70-130	2		30
Toluene	84		86		70-130	2		30
Ethylbenzene	87		89		70-130	2		30
Isopropylbenzene	83		84		70-130	1		30
1,3,5-Trimethylbenzene	83		84		70-130	1		30
1,2,4-Trimethylbenzene	83		84		70-130	1		30
Naphthalene	82		78		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	114		112		70-130
Toluene-d8	100		99		70-130
4-Bromofluorobenzene	98		97		70-130
Dibromofluoromethane	109		110		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 08-09,11-12 Batch: WG1585264-3 WG1585264-4								
Methyl tert butyl ether	97		93		66-130	4		30
Benzene	88		90		70-130	2		30
Toluene	84		86		70-130	2		30
Ethylbenzene	87		89		70-130	2		30
Isopropylbenzene	83		84		70-130	1		30
1,3,5-Trimethylbenzene	83		84		70-130	1		30
1,2,4-Trimethylbenzene	83		84		70-130	1		30
Naphthalene	82		78		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	114		112		70-130
Toluene-d8	100		99		70-130
4-Bromofluorobenzene	98		97		70-130
Dibromofluoromethane	109		110		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 07,13,15-16 Batch: WG1585981-3 WG1585981-4								
Methyl tert butyl ether	96		102		66-130	6		30
Benzene	86		92		70-130	7		30
1,2-Dichloroethane	95		104		70-130	9		30
Toluene	84		88		70-130	5		30
1,2-Dibromoethane	96		99		70-130	3		30
Ethylbenzene	87		92		70-130	6		30
p/m-Xylene	89		95		70-130	7		30
o-Xylene	91		99		70-130	8		30
Isopropylbenzene	87		86		70-130	1		30
1,3,5-Trimethylbenzene	86		86		70-130	0		30
1,2,4-Trimethylbenzene	86		86		70-130	0		30
Naphthalene	82		84		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		110		70-130
Toluene-d8	102		99		70-130
4-Bromofluorobenzene	103		98		70-130
Dibromofluoromethane	104		108		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 05 Batch: WG1586009-3 WG1586009-4								
Methyl tert butyl ether	103		103		66-130	0		30
Benzene	106		104		70-130	2		30
1,2-Dichloroethane	98		98		70-130	0		30
Toluene	105		103		70-130	2		30
1,2-Dibromoethane	99		100		70-130	1		30
Ethylbenzene	108		106		70-130	2		30
p/m-Xylene	116		113		70-130	3		30
o-Xylene	114		112		70-130	2		30
Isopropylbenzene	112		109		70-130	3		30
1,3,5-Trimethylbenzene	113		110		70-130	3		30
1,2,4-Trimethylbenzene	112		110		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		96		70-130
Toluene-d8	100		99		70-130
4-Bromofluorobenzene	98		98		70-130
Dibromofluoromethane	101		101		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 06,14 Batch: WG1586011-3 WG1586011-4								
Methyl tert butyl ether	106		106		66-130	0		30
Benzene	110		108		70-130	2		30
Toluene	108		108		70-130	0		30
Ethylbenzene	111		111		70-130	0		30
Isopropylbenzene	114		111		70-130	3		30
1,3,5-Trimethylbenzene	115		113		70-130	2		30
1,2,4-Trimethylbenzene	116		114		70-130	2		30
Naphthalene	101		106		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		99		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	94		96		70-130
Dibromofluoromethane	102		103		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 10 Batch: WG1586225-3 WG1586225-4								
Methyl tert butyl ether	105		106		66-130	1		30
Benzene	106		105		70-130	1		30
Toluene	104		105		70-130	1		30
Ethylbenzene	107		108		70-130	1		30
Isopropylbenzene	110		110		70-130	0		30
1,3,5-Trimethylbenzene	110		112		70-130	2		30
1,2,4-Trimethylbenzene	111		112		70-130	1		30
Naphthalene	108		111		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		96		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	100		98		70-130
Dibromofluoromethane	100		101		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 18 Batch: WG1586758-3 WG1586758-4								
Methyl tert butyl ether	90		100		63-130	11		20
Benzene	100		100		70-130	0		20
1,2-Dichloroethane	110		110		70-130	0		20
Toluene	100		110		70-130	10		20
Ethylbenzene	100		110		70-130	10		20
p/m-Xylene	100		105		70-130	5		20
o-Xylene	100		105		70-130	5		20
Isopropylbenzene	100		110		70-130	10		20
1,3,5-Trimethylbenzene	94		98		64-130	4		20
1,2,4-Trimethylbenzene	95		99		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	109		111		70-130
Toluene-d8	105		105		70-130
4-Bromofluorobenzene	99		100		70-130
Dibromofluoromethane	103		103		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-01
Client ID: PB-885-22-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 09:10
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 02:17
Analyst: JG
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 08:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	41		23-120
2-Fluorobiphenyl	37		30-120
4-Terphenyl-d14	37		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-02
Client ID: PB-885-23-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 09:30
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 02:41
Analyst: JG
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 08:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	77		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-03
Client ID: PB-885-26-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 09:45
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 03:05
Analyst: JG
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 08:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	67		30-120
4-Terphenyl-d14	68		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-04
Client ID: PB-885-21-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 10:10
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 03:29
Analyst: JG
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 08:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	55		23-120
2-Fluorobiphenyl	53		30-120
4-Terphenyl-d14	57		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-05
Client ID: PB-885-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 10:40
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 03:54
Analyst: JG
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 08:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	68		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-16 D
Client ID: DUP-23
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 00:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 21:49
Analyst: CMM
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 08:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	4.0	0.49	20
Fluorene	14.		mg/kg	4.0	0.39	20
Phenanthrene	29.		mg/kg	2.4	0.49	20
Anthracene	3.7		mg/kg	2.4	0.78	20
Pyrene	2.9		mg/kg	2.4	0.40	20
Benzo(a)anthracene	ND		mg/kg	2.4	0.45	20
Chrysene	ND		mg/kg	2.4	0.42	20
Benzo(b)fluoranthene	ND		mg/kg	2.4	0.68	20
Benzo(a)pyrene	ND		mg/kg	3.2	0.98	20
Benzo(ghi)perylene	ND		mg/kg	3.2	0.47	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**0**	Q	23-120
2-Fluorobiphenyl	**0**	Q	30-120
4-Terphenyl-d14	**0**	Q	18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-17
Client ID: FB-211207
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 15:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/14/21 13:31
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 12/12/21 07:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.02	J	ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	55		23-120
2-Fluorobiphenyl	67		15-120
4-Terphenyl-d14	68		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 12/14/21 17:24
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 12/11/21 21:11

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 17 Batch: WG1582162-1					
Naphthalene	0.12		ug/l	0.10	0.05
Fluorene	0.01	J	ug/l	0.10	0.01
Phenanthrene	0.10		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	0.02	J	ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	59		23-120
2-Fluorobiphenyl	73		15-120
4-Terphenyl-d14	72		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/19/21 23:25
Analyst: SLR

Extraction Method: EPA 3546
Extraction Date: 12/18/21 08:16

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-05,16 Batch: WG1584941-1					
Naphthalene	ND		mg/kg	0.17	0.020
Fluorene	ND		mg/kg	0.17	0.016
Phenanthrene	ND		mg/kg	0.10	0.020
Anthracene	ND		mg/kg	0.10	0.032
Pyrene	ND		mg/kg	0.10	0.016
Benzo(a)anthracene	ND		mg/kg	0.10	0.019
Chrysene	ND		mg/kg	0.10	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.020

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	65		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	69		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 17 Batch: WG1582162-2 WG1582162-3								
Naphthalene	78		87		40-140	11		40
Fluorene	93		95		40-140	2		40
Phenanthrene	91		92		40-140	1		40
Anthracene	96		97		40-140	1		40
Pyrene	105		104		26-127	1		40
Benzo(a)anthracene	99		97		40-140	2		40
Chrysene	92		92		40-140	0		40
Benzo(b)fluoranthene	109		109		40-140	0		40
Benzo(a)pyrene	105		103		40-140	2		40
Benzo(ghi)perylene	90		88		40-140	2		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	68		77		23-120
2-Fluorobiphenyl	88		97		15-120
4-Terphenyl-d14	114		112		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05,16 Batch: WG1584941-2 WG1584941-3								
Naphthalene	60		75		40-140	22		50
Fluorene	62		74		40-140	18		50
Phenanthrene	60		71		40-140	17		50
Anthracene	59		73		40-140	21		50
Pyrene	61		73		35-142	18		50
Benzo(a)anthracene	64		76		40-140	17		50
Chrysene	64		76		40-140	17		50
Benzo(b)fluoranthene	67		79		40-140	16		50
Benzo(a)pyrene	63		71		40-140	12		50
Benzo(ghi)perylene	68		83		40-140	20		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	61		74		23-120
2-Fluorobiphenyl	63		76		30-120
4-Terphenyl-d14	63		75		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-01
Client ID: PB-885-22-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 09:10
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.76		mg/kg	4.73	0.254	2	12/17/21 19:37	12/22/21 13:59	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-02
Client ID: PB-885-23-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 09:30
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.80		mg/kg	2.08	0.111	1	12/17/21 19:37	12/21/21 22:55	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-03
Client ID: PB-885-26-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 09:45
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.28		mg/kg	2.05	0.110	1	12/17/21 19:37	12/21/21 23:00	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-04
Client ID: PB-885-21-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 10:10
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.11		mg/kg	2.06	0.110	1	12/17/21 19:37	12/21/21 23:05	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-05
Client ID: PB-885-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 10:40
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.41		mg/kg	2.07	0.111	1	12/17/21 19:37	12/21/21 23:10	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-16
Client ID: DUP-23
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 00:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.69		mg/kg	2.29	0.123	1	12/17/21 19:37	12/21/21 23:34	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-17
Client ID: FB-211207
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Water

Date Collected: 12/07/21 15:00
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	12/14/21 05:12	12/17/21 02:28	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 17 Batch: WG1582832-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	12/14/21 05:12	12/16/21 23:54	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-05,16 Batch: WG1584723-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	12/17/21 19:37	12/21/21 20:33	1,6010D	DL

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 17 Batch: WG1582832-2								
Lead, Total	100		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-05,16 Batch: WG1584723-2 SRM Lot Number: D113-540								
Lead, Total	92		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167219
Report Date: 12/22/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 17 QC Batch ID: WG1582832-3 WG1582832-4 QC Sample: L2167147-05 Client ID: MS Sample												
Lead, Total	1.973	530	492.8	93		482.8	91		75-125	2		20
Total Metals - Mansfield Lab Associated sample(s): 01-05,16 QC Batch ID: WG1584723-3 QC Sample: L2167070-01 Client ID: MS Sample												
Lead, Total	10.2	48	49.6	82		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-05,16 QC Batch ID: WG1584723-4 QC Sample: L2167070-01 Client ID: DUP Sample						
Lead, Total	10.2	10.3	mg/kg	1		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-01
Client ID: PB-885-22-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 09:10
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.0		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-02
Client ID: PB-885-23-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/07/21 09:30
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.0		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-03
Client ID: PB-885-26-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/07/21 09:45
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.1		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-04
Client ID: PB-885-21-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/07/21 10:10
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.8		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-05
Client ID: PB-885-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/07/21 10:40
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.7		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-06
Client ID: PB-253-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/07/21 12:30
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-07
Client ID: PB-253-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/07/21 13:00
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.0		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-08
Client ID: PB-253-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/07/21 13:10
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.0		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-09
Client ID: PB-253-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/07/21 13:40
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.0		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-10
Client ID: PB-253-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/07/21 14:00
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.3		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-11
Client ID: PB-253-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/07/21 14:10
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.1		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-12
Client ID: PB-253-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/07/21 14:20
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.9		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-13
Client ID: PB-253-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/07/21 14:30
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.7		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-14
Client ID: PB-253-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/07/21 14:40
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.9		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-15
Client ID: PB-253-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/07/21 14:50
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.5		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-16
Client ID: DUP-23
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/07/21 00:00
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.7		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-16 QC Batch ID: WG1580638-1 QC Sample: L2167219-01 Client ID: PB-885-22-SS01						
Solids, Total	80.0	79.4	%	1		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167219
Report Date: 12/22/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167219-01A	Vial MeOH preserved	A	NA		2.3	Y	Absent		PA-8260HLW(14)
L2167219-01B	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-01C	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-01D	Plastic 2oz unpreserved for TS	A	NA		2.3	Y	Absent		TS(7)
L2167219-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.3	Y	Absent		PB-TI(180)
L2167219-01F	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		PA-PAH(14)
L2167219-02A	Vial MeOH preserved	A	NA		2.3	Y	Absent		PA-8260HLW(14)
L2167219-02B	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-02C	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-02D	Plastic 2oz unpreserved for TS	A	NA		2.3	Y	Absent		TS(7)
L2167219-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.3	Y	Absent		PB-TI(180)
L2167219-02F	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		PA-PAH(14)
L2167219-03A	Vial MeOH preserved	A	NA		2.3	Y	Absent		PA-8260HLW(14)
L2167219-03B	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-03C	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-03D	Plastic 2oz unpreserved for TS	A	NA		2.3	Y	Absent		TS(7)
L2167219-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.3	Y	Absent		PB-TI(180)
L2167219-03F	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		PA-PAH(14)
L2167219-04A	Vial MeOH preserved	A	NA		2.3	Y	Absent		PA-8260HLW(14)
L2167219-04B	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-04C	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-04D	Plastic 2oz unpreserved for TS	A	NA		2.3	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167219
Report Date: 12/22/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167219-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.3	Y	Absent		PB-TI(180)
L2167219-04F	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		PA-PAH(14)
L2167219-05A	Vial MeOH preserved	A	NA		2.3	Y	Absent		PA-8260HLW(14)
L2167219-05B	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-05C	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-05D	Plastic 2oz unpreserved for TS	A	NA		2.3	Y	Absent		TS(7)
L2167219-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.3	Y	Absent		PB-TI(180)
L2167219-05F	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		PA-PAH(14)
L2167219-06A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2167219-06B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260H(14),PA-8260HLW(14)
L2167219-06C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260H(14),PA-8260HLW(14)
L2167219-06D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-07A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-07B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-07C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-07D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-08A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-08B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-08C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-08D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-09A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-09B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-09C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-09D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-10A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-10B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-10C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-10D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167219
Report Date: 12/22/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167219-11A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-11B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-11C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-11D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-12A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-12B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-12C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-12D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-13A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-13B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-13C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-13D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-14A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-14B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-14C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-14D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-15A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-15B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-15C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-15D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-16A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-16B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-16C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-16D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-16E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2167219-16F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2167219-17A	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2167219-17B	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167219
Report Date: 12/22/21

Container Information

Container ID	*Container Type*	*Cooler*	*Initial pH*	*Final pH*	*Temp deg C*	*Pres*	*Seal*	*Frozen Date/Time*	*Analysis(*)*
L2167219-17C	Vial HCl preserved	A	NA		2.3	Y	Absent		8011(14)
L2167219-17D	Plastic 500ml HNO3 preserved	A	<2	<2	2.3	Y	Absent		PB-6020T-PPB(180)
L2167219-17E	Amber 250ml unpreserved	A	7	7	2.3	Y	Absent		PA-PAHSIM-LVI(7)
L2167219-17F	Amber 250ml unpreserved	A	7	7	2.3	Y	Absent		PA-PAHSIM-LVI(7)
L2167219-17G	Plastic 60ml unpreserved	A	NA		2.3	Y	Absent		ARCHIVE()
L2167219-18A	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2167219-18B	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2167219-18C	Vial Na2S2O3 preserved	A	NA		2.3	Y	Absent		8011(14)
L2167219-18D	Vial Na2S2O3 preserved	A	NA		2.3	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167219
Project Number:	200.00135.005.03	**Report Date:**	12/22/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167219
Project Number:	200.00135.005.03	**Report Date:**	12/22/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167219
Project Number:	200.00135.005.03	**Report Date:**	12/22/21

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/8/21

ALPHA Job #: L2167219

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client Info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program: Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist		Sample Specific Comments	TOTAL # BOTTLES
L7219-01	PB-885-22-5501	12/7	0910	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-02	PB-885-23-5501		0930	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-03	PB-885-26-5501		0945	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-04	PB-885-21-5501		1010	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-05	PB-885-06-5501		1040	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-06	PB-253-01-5501		1230	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-07	PB-253-02-5501		1300	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-08	PB-253-03-5501		1310	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-09	PB-253-04-5501		1340	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-10	PB-253-05-5501		1400	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
	Container Type					G	G	G	-	-	-	-	-	-	-	-	-		
	Preservative					F	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	12/7 1615	AAI	12/7/21 1625
	12/7/21 1750		12/7/21 1750
	12/7/21	AAI	12/7/21 2030
	12/8/21		12/8/21 0450
	12/8/21 0400		12/8/21 0400

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(O-XI) (rev. 9-JAN-13)

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/8/21

ALPHA Job #: L2167219

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist (1-5)		Sample Specific Comments	TOTAL # BOTTLES
67219-11	PB-253-06-5501	12/7	1410	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-12	PB-253-07-5501		1420	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-13	PB-253-08-5501		1430	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-14	PB-253-09-5501		1440	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-15	PB-253-10-5501		1450	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-16	Dup-23		-	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-17	FB-211207		1500	W	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		7
-18	TB-211207		-	W	TS	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐		2
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		

Container Type	G	G	G	-	-	-	-	-	-	-	-	-		
Preservative	F	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	12/7 1625	AAL	12/7/21 1625
	12/7/21 1750	AAL	12/7/21 1750
AAL	12/7/21		12/7/21 2030
	12/8/21	AAL	12/8/21 0150
AAL	12/8/21 0400		12/8/21 0400

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-M2) (rev. 8-JAN-12)

PADEP Short List Analytical List:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

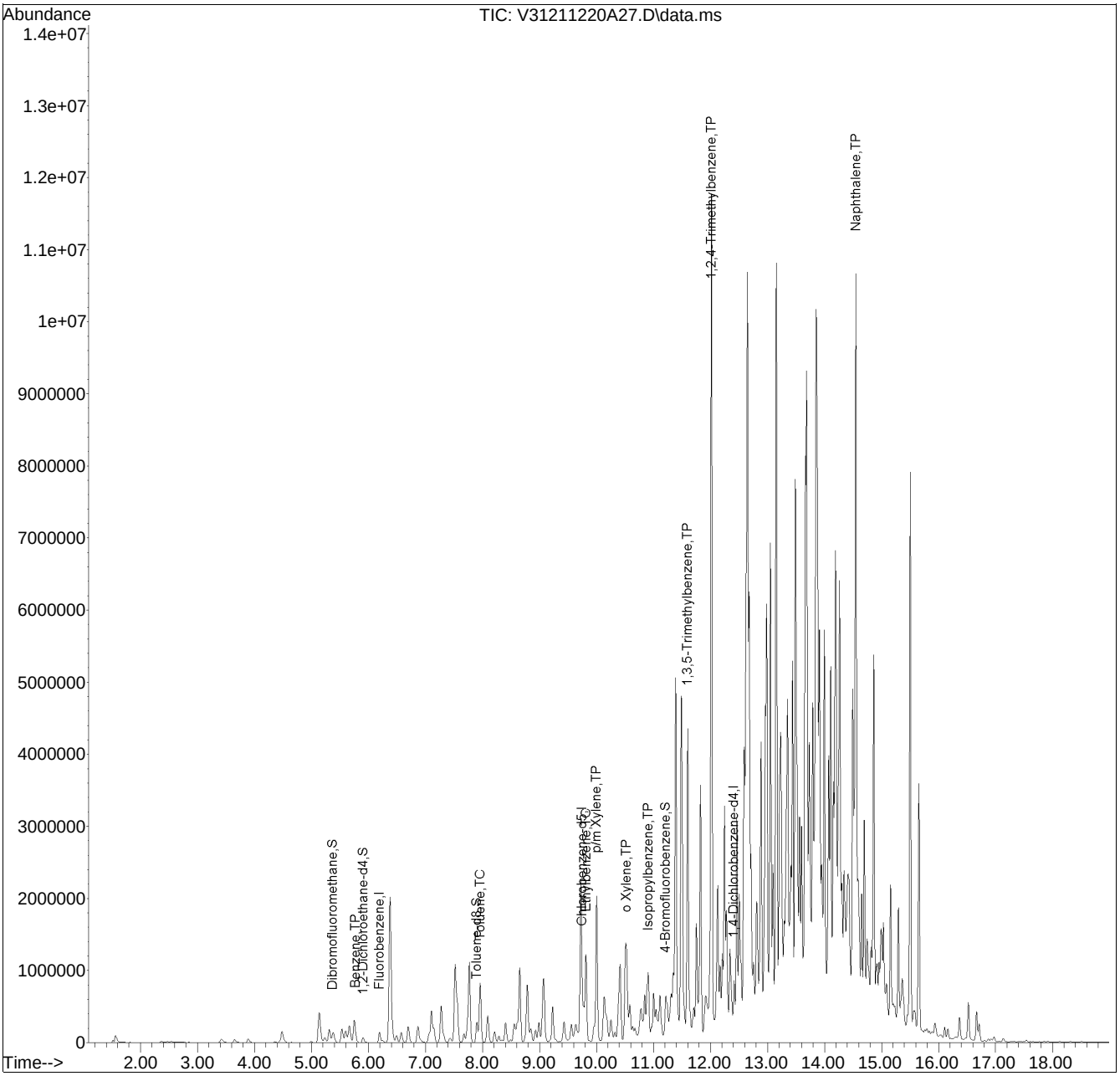
6. Waste Oil – benzene, toluene, ethyl benzene, cumene, naphthalene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, lead

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA131\2021\211220A\
Data File : V31211220A27.D
Acq On : 20 Dec 2021 05:54 pm
Operator : VOA131:MV
Sample : l2167219-07,31H,4.64,5,0.100,,a
Misc : WG1585981,ICAL18518
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 21 05:07:47 2021
Quant Method : I:\VOLATILES\VOA131\2021\211220A\V31_211202A_8260D.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Dec 03 10:30:02 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list20A\V31211220A01.D•

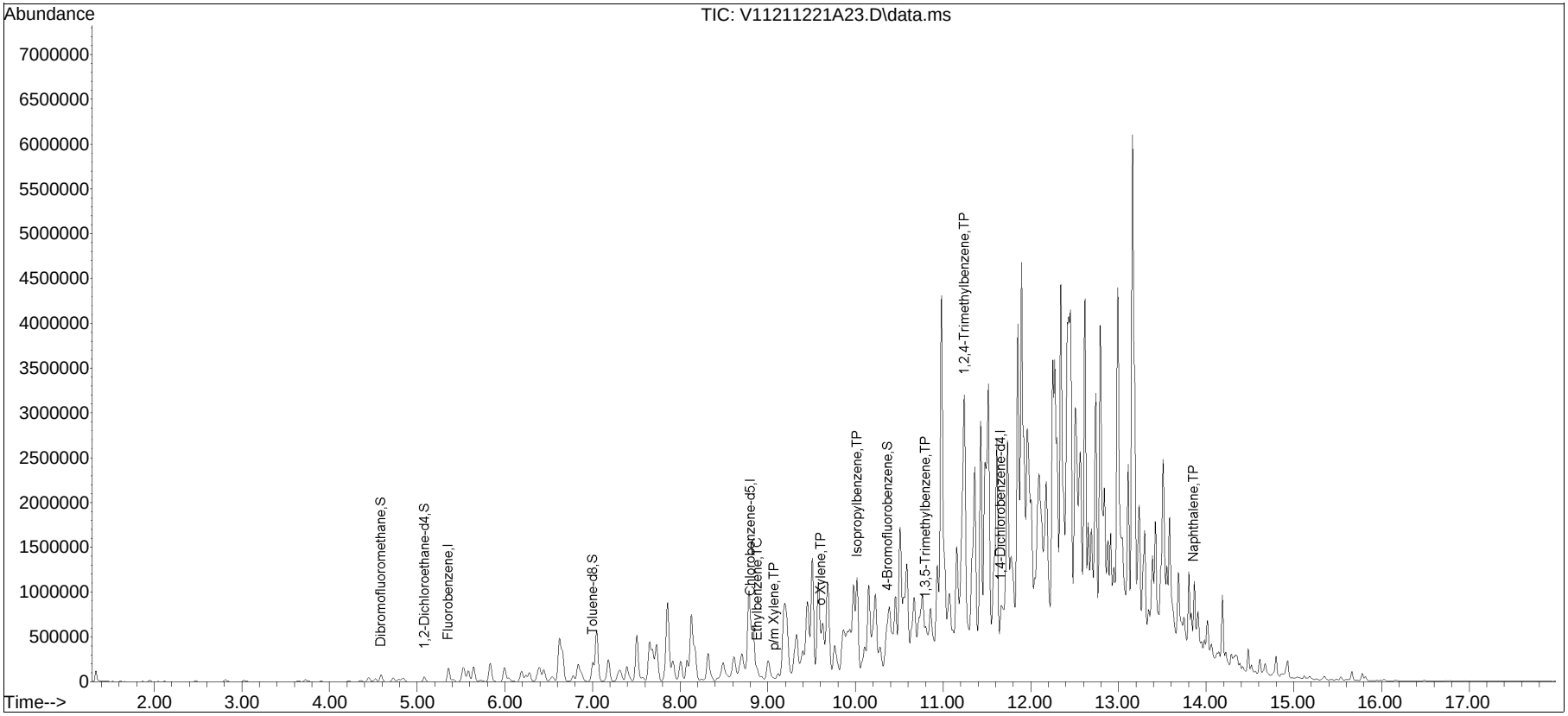


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\211221A\
Data File : V11211221A23.D
Acq On : 21 Dec 2021 03:10 pm
Operator : VOA111:KJD
Sample : L2167219-10,31,5.51,5,,B
Misc : WG1586225,ICAL18566
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Dec 21 15:37:17 2021
Quant Method : I:\VOLATILES\VOA111\2021\211221A\V111_211214A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Dec 14 12:27:59 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list21A\V11211221A01.D•

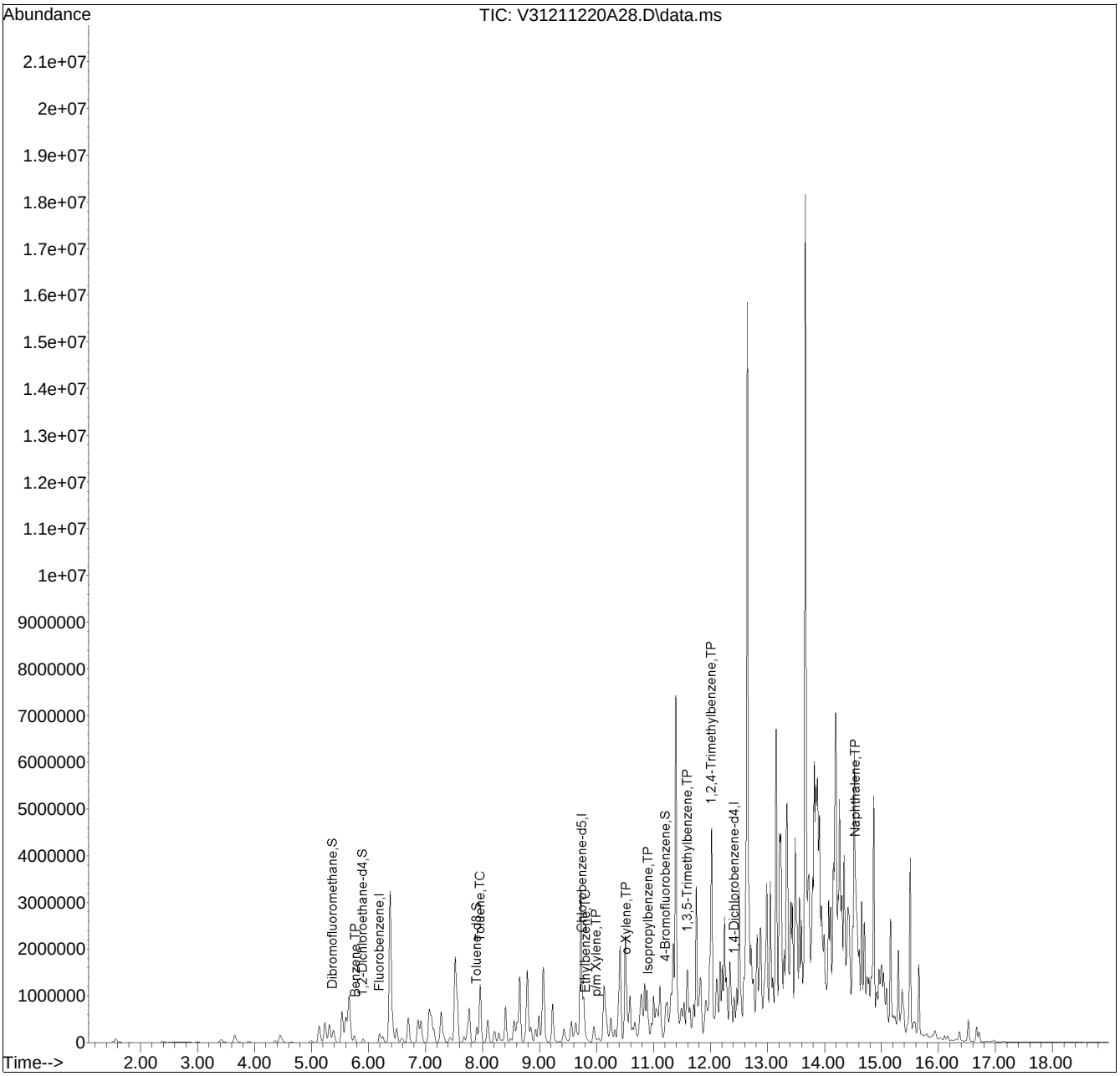


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA131\2021\211220A\
Data File : V31211220A28.D
Acq On : 20 Dec 2021 06:17 pm
Operator : VOA131:MV
Sample : l2167219-13,31H,5.33,5,0.100,,a
Misc : WG1585981,ICAL18518
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Dec 21 05:07:51 2021
Quant Method : I:\VOLATILES\VOA131\2021\211220A\V31_211202A_8260D.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Dec 03 10:30:02 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list20A\V31211220A01.D•

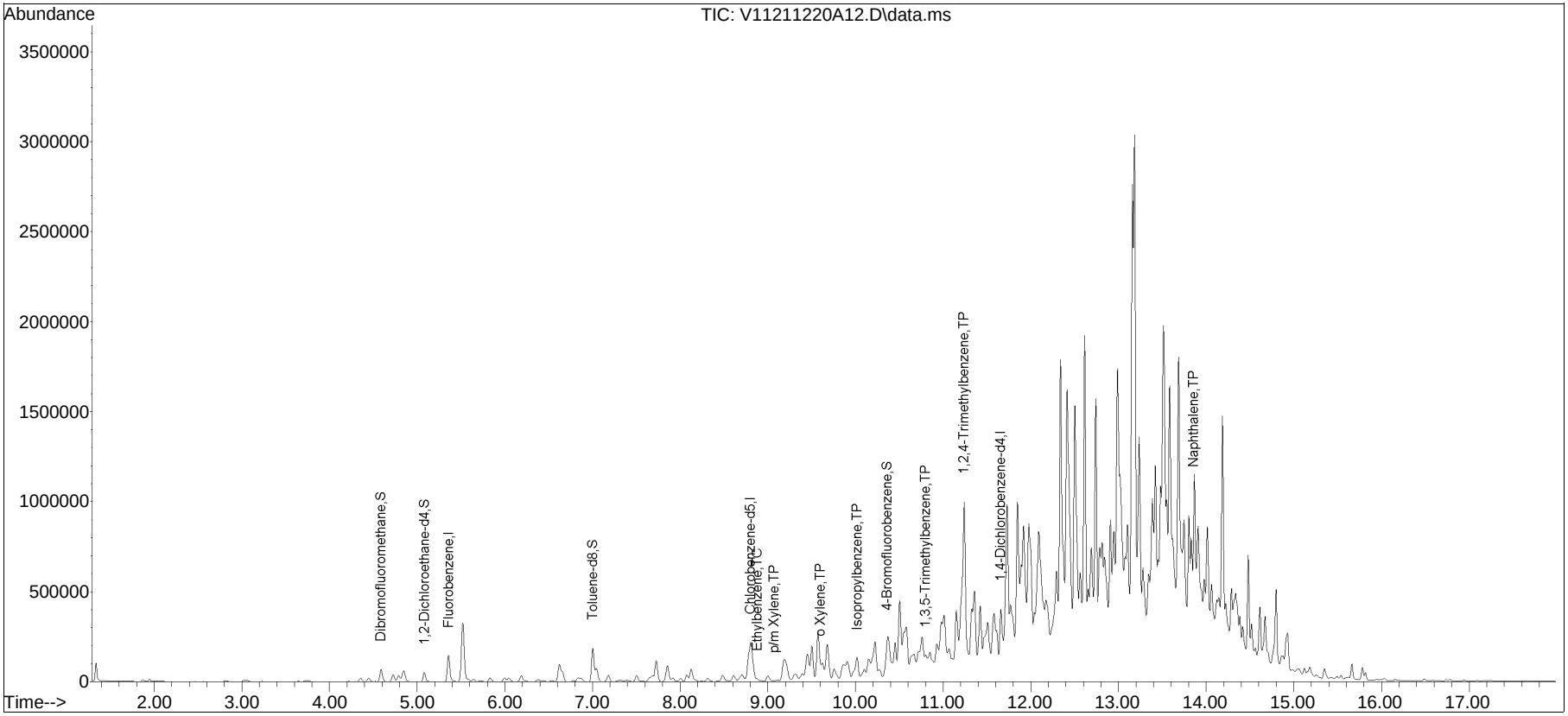


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\211220A\
Data File : V11211220A12.D
Acq On : 20 Dec 2021 12:43 pm
Operator : VOA111:MV
Sample : L2167219-14,31,4.21,5,,B
Misc : WG1586011,ICAL18566
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Dec 21 08:40:26 2021
Quant Method : I:\VOLATILES\VOA111\2021\211220A\V111_211214A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Dec 14 12:27:59 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list20A\V11211220A01.D•

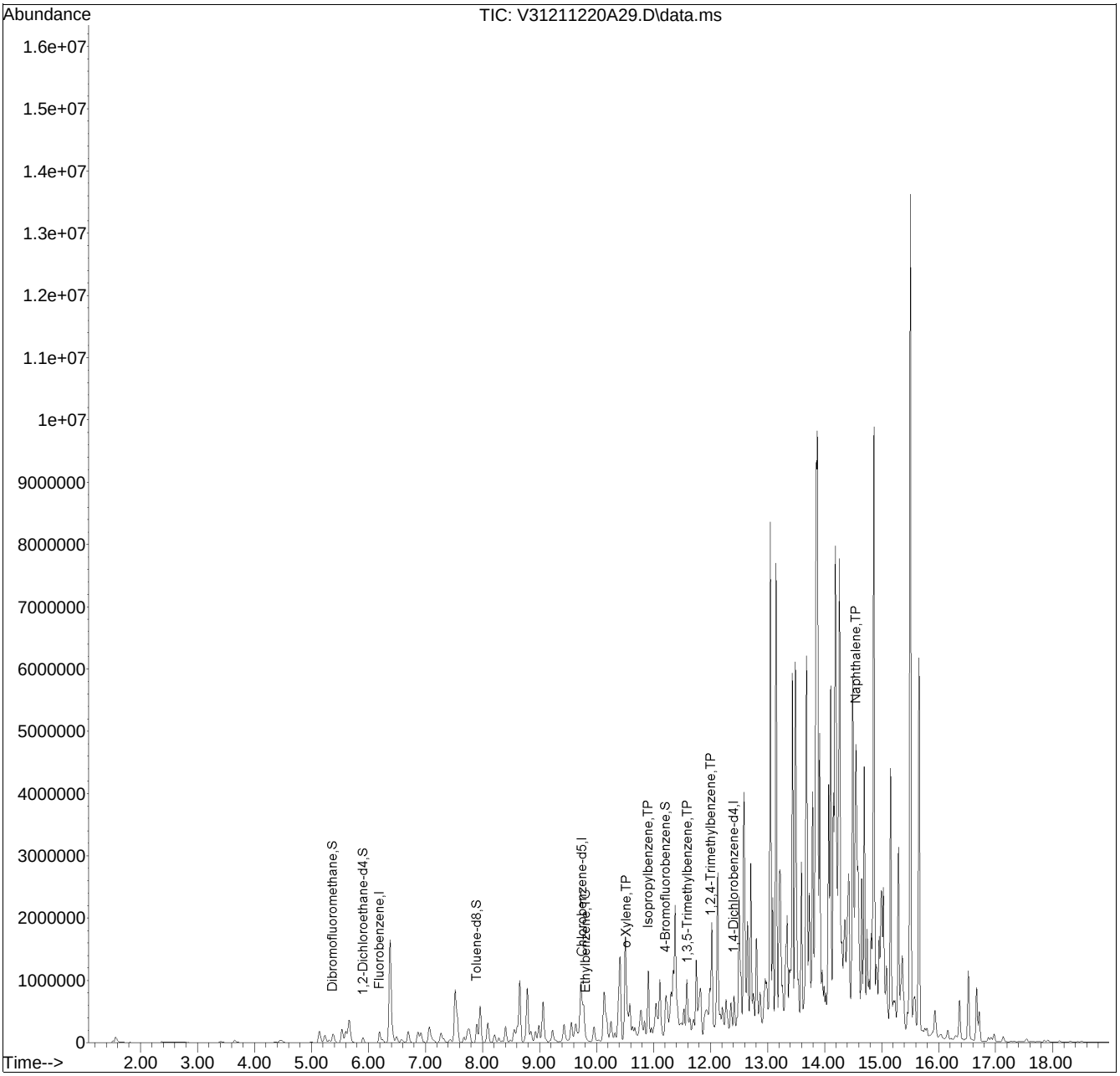


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA131\2021\211220A\
Data File : V31211220A29.D
Acq On : 20 Dec 2021 06:40 pm
Operator : VOA131:MV
Sample : l2167219-15,31H,5.71,5,0.100,,a
Misc : WG1585981,ICAL18518
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Dec 21 06:01:53 2021
Quant Method : I:\VOLATILES\VOA131\2021\211220A\V31_211202A_8260D.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Dec 03 10:30:02 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list20A\V31211220A01.D•

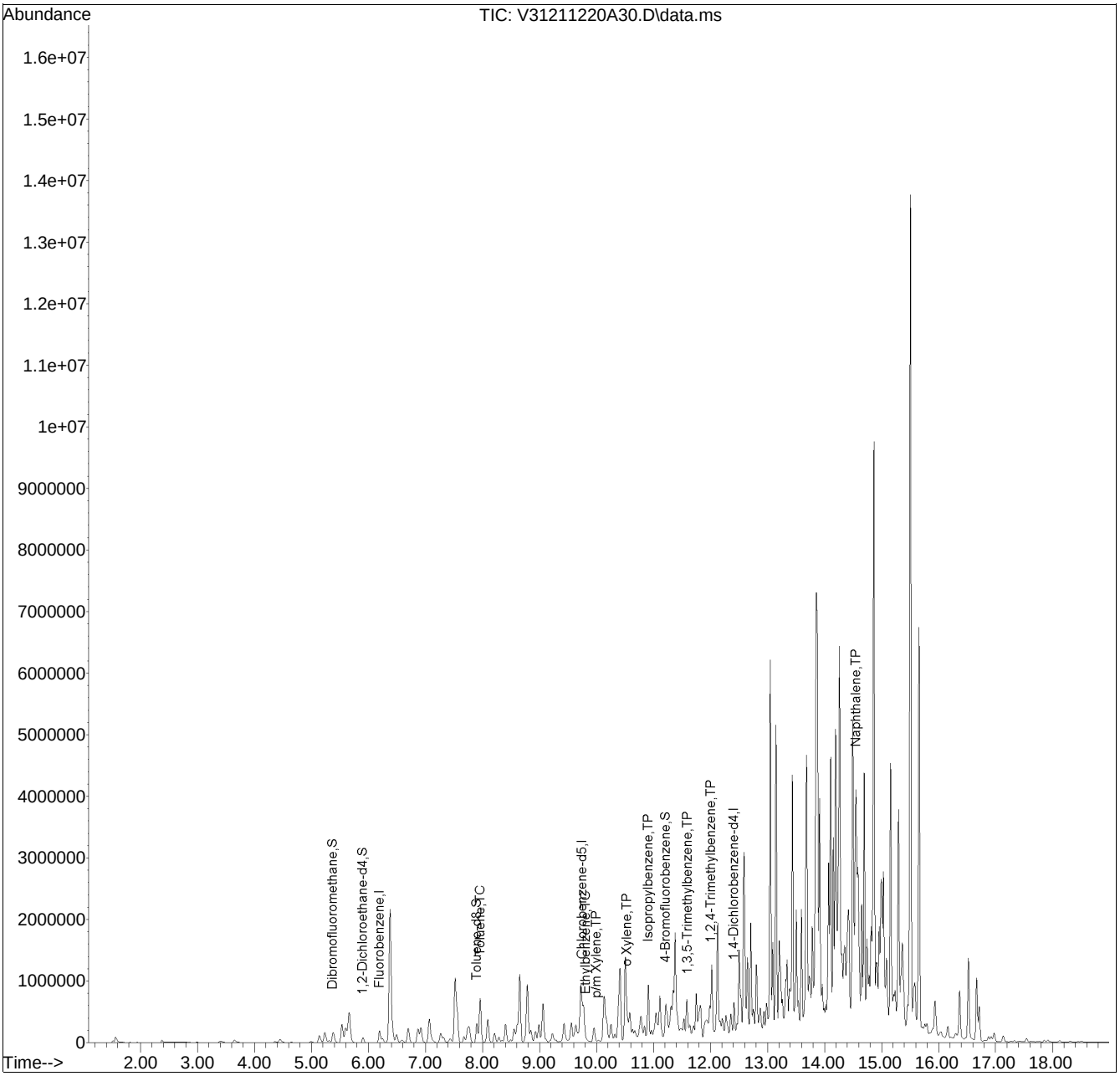


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA131\2021\211220A\
Data File : V31211220A30.D
Acq On : 20 Dec 2021 07:02 pm
Operator : VOA131:MV
Sample : l2167219-16,31H,5.32,5,0.100,,a
Misc : WG1585981,ICAL18518
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 21 06:02:25 2021
Quant Method : I:\VOLATILES\VOA131\2021\211220A\V31_211202A_8260D.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Dec 03 10:30:02 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list20A\V31211220A01.D•



ANALYTICAL REPORT

Lab Number:	L2167531
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.005.03
Report Date:	12/27/21

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Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167531
Report Date: 12/27/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2167531-01	PB-253-11-SS01	SOIL	PHILADELPHIA, PA	12/08/21 09:10	12/08/21
L2167531-02	PB-253-12-SS01	SOIL	PHILADELPHIA, PA	12/08/21 09:20	12/08/21
L2167531-03	PB-253-13-SS01	SOIL	PHILADELPHIA, PA	12/08/21 09:35	12/08/21
L2167531-04	PB-253-14-SS01	SOIL	PHILADELPHIA, PA	12/08/21 09:50	12/08/21
L2167531-05	PB-253-15-SS01	SOIL	PHILADELPHIA, PA	12/08/21 10:00	12/08/21
L2167531-06	PB-253-16-SS01	SOIL	PHILADELPHIA, PA	12/08/21 10:15	12/08/21
L2167531-07	PB-253-17-SS01	SOIL	PHILADELPHIA, PA	12/08/21 10:30	12/08/21
L2167531-08	PB-883-08-SS01	SOIL	PHILADELPHIA, PA	12/08/21 11:35	12/08/21
L2167531-09	PB-883-09-SS01	SOIL	PHILADELPHIA, PA	12/08/21 11:55	12/08/21
L2167531-10	PB-883-10-SS01	SOIL	PHILADELPHIA, PA	12/08/21 12:15	12/08/21
L2167531-11	PB-883-11-SS01	SOIL	PHILADELPHIA, PA	12/08/21 12:45	12/08/21
L2167531-12	PB-883-12-SS01	SOIL	PHILADELPHIA, PA	12/08/21 13:00	12/08/21
L2167531-13	PB-883-13-SS01	SOIL	PHILADELPHIA, PA	12/08/21 13:10	12/08/21
L2167531-14	PB-883-14-SS01	SOIL	PHILADELPHIA, PA	12/08/21 13:20	12/08/21
L2167531-15	PB-883-16-SS01	SOIL	PHILADELPHIA, PA	12/08/21 13:25	12/08/21
L2167531-16	PB-883-17-SS01	SOIL	PHILADELPHIA, PA	12/08/21 13:40	12/08/21
L2167531-17	PB-883-18-SS01	SOIL	PHILADELPHIA, PA	12/08/21 13:50	12/08/21
L2167531-18	PB-883-19-SS01	SOIL	PHILADELPHIA, PA	12/08/21 14:00	12/08/21
L2167531-19	PB-883-22-SS01	SOIL	PHILADELPHIA, PA	12/08/21 14:05	12/08/21
L2167531-20	PB-883-23-SS01	SOIL	PHILADELPHIA, PA	12/08/21 14:15	12/08/21
L2167531-21	PB-883-24-SS01	SOIL	PHILADELPHIA, PA	12/08/21 14:30	12/08/21
L2167531-22	FB-211208-1	WATER	PHILADELPHIA, PA	12/08/21 14:40	12/08/21
L2167531-23	FB-211208-2	WATER	PHILADELPHIA, PA	12/08/21 14:45	12/08/21
L2167531-24	DUP-24	SOIL	PHILADELPHIA, PA	12/08/21 00:00	12/08/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2167531-25	TB-211208	WATER	PHILADELPHIA, PA	12/08/21 00:00	12/08/21

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167531
Project Number:	200.00135.005.03	**Report Date:**	12/27/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167531
Project Number:	200.00135.005.03	**Report Date:**	12/27/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2167531-17: The surrogate recoveries are outside the acceptance criteria for toluene-d8 (185%) and 4-bromofluorobenzene (167%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Semivolatile Organics

L2167531-15D, -16D and -17D: The sample has elevated detection limits due to the dilution required by the sample matrix.

Semivolatile Organics by SIM

L2167531-23: The Field Blank has a concentration above the reporting limit for Naphthalene and Phenanthrene. The sample was re-extracted with the method required holding time exceeded and was non-detect for this target compound. The results of both extractions are reported.

Total Metals

The WG1585605-3 MS recovery, performed on L2167531-08, is outside the acceptance criteria for lead (63%). A post digestion spike was performed and yielded an unacceptable recovery for lead (62%). The serial dilution recovery was not applicable; therefore, this element fails the matrix test and the result reported in the native sample should be considered estimated.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Title: Technical Director/Representative Date: 12/27/21

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-01
Client ID: PB-253-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 09:10
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 02:19
Analyst: MKS
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
Toluene	ND		mg/kg	0.00089	0.00048	1
Ethylbenzene	ND		mg/kg	0.00089	0.00012	1
Isopropylbenzene	ND		mg/kg	0.00089	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1
Naphthalene	ND		mg/kg	0.0036	0.00058	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-02
Client ID: PB-253-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 09:20
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 00:49
Analyst: MKS
Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
Toluene	ND		mg/kg	0.0011	0.00058	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00036	1
Naphthalene	ND		mg/kg	0.0043	0.00070	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	111		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-03
Client ID: PB-253-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 09:35
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 01:11
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0029	0.00029	1
Benzene	ND		mg/kg	0.00072	0.00024	1
Toluene	ND		mg/kg	0.0014	0.00078	1
Ethylbenzene	ND		mg/kg	0.0014	0.00020	1
Isopropylbenzene	ND		mg/kg	0.0014	0.00016	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0029	0.00028	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0029	0.00048	1
Naphthalene	ND		mg/kg	0.0058	0.00094	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	111		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-04
Client ID: PB-253-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 09:50
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 01:34
Analyst: MKS
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00053	0.00018	1
Toluene	ND		mg/kg	0.0011	0.00058	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00036	1
Naphthalene	ND		mg/kg	0.0042	0.00069	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	110		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-05
Client ID: PB-253-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 10:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 01:57
Analyst: MKS
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00052	0.00017	1
Toluene	ND		mg/kg	0.0010	0.00057	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1
Naphthalene	ND		mg/kg	0.0042	0.00068	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	109		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-06
Client ID: PB-253-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 10:15
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 06:53
Analyst: AJK
Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00052	0.00017	1
Toluene	ND		mg/kg	0.0010	0.00056	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1
Naphthalene	ND		mg/kg	0.0042	0.00068	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-07
Client ID: PB-253-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 10:30
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 07:14
Analyst: AJK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0027	0.00028	1
Benzene	ND		mg/kg	0.00068	0.00023	1
Toluene	ND		mg/kg	0.0014	0.00074	1
Ethylbenzene	ND		mg/kg	0.0014	0.00019	1
Isopropylbenzene	ND		mg/kg	0.0014	0.00015	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0027	0.00026	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0027	0.00046	1
Naphthalene	ND		mg/kg	0.0055	0.00089	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	110		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-08
Client ID: PB-883-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 11:35
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 07:34
Analyst: AJK
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00061	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	107		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-09
Client ID: PB-883-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 11:55
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 07:55
Analyst: AJK
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	109		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-10
Client ID: PB-883-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 12:15
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 08:16
Analyst: AJK
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00044	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00089	0.00023	1
Toluene	ND		mg/kg	0.00089	0.00048	1
1,2-Dibromoethane	ND		mg/kg	0.00044	0.00026	1
Ethylbenzene	ND		mg/kg	0.00089	0.00012	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00089	0.00026	1
Xylenes, Total	ND		mg/kg	0.00089	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00089	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	111		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-11
Client ID: PB-883-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 12:45
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 08:36
Analyst: AJK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00095	0.00024	1
Toluene	ND		mg/kg	0.00095	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00095	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00053	1
o-Xylene	ND		mg/kg	0.00095	0.00028	1
Xylenes, Total	ND		mg/kg	0.00095	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00095	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	112		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-12
Client ID: PB-883-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 08:57
Analyst: AJK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00057	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00057	0.00034	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00064	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	113		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-13
Client ID: PB-883-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:10
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 09:18
Analyst: AJK
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00096	0.00025	1
Toluene	ND		mg/kg	0.00096	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00096	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00096	0.00028	1
Xylenes, Total	ND		mg/kg	0.00096	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00096	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-14
Client ID: PB-883-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 13:20
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 13:26
Analyst: AJK
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0025	0.00025	1
Benzene	ND		mg/kg	0.00062	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00032	1
Toluene	ND		mg/kg	0.0012	0.00067	1
1,2-Dibromoethane	ND		mg/kg	0.00062	0.00036	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0025	0.00069	1
o-Xylene	ND		mg/kg	0.0012	0.00036	1
Xylenes, Total	ND		mg/kg	0.0012	0.00036	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0025	0.00024	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0025	0.00041	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	115		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-15
Client ID: PB-883-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:25
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 09:38
Analyst: AJK
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00023	1
Benzene	ND		mg/kg	0.00056	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00061	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00063	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	0.00019	J	mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-16
Client ID: PB-883-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:40
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 22:10
Analyst: JC
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0026	0.00026	1
Benzene	ND		mg/kg	0.00064	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00033	1
Toluene	ND		mg/kg	0.0013	0.00070	1
1,2-Dibromoethane	ND		mg/kg	0.00064	0.00038	1
Ethylbenzene	ND		mg/kg	0.0013	0.00018	1
p/m-Xylene	ND		mg/kg	0.0026	0.00072	1
o-Xylene	ND		mg/kg	0.0013	0.00037	1
Xylenes, Total	ND		mg/kg	0.0013	0.00037	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0026	0.00025	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0026	0.00043	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	111		70-130
4-Bromofluorobenzene	**152**	Q	70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-17
Client ID: PB-883-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:50
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/22/21 08:04
Analyst: MV
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.013	1
Benzene	ND		mg/kg	0.032	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.064	0.016	1
Toluene	ND		mg/kg	0.064	0.035	1
1,2-Dibromoethane	ND		mg/kg	0.032	0.019	1
Ethylbenzene	ND		mg/kg	0.064	0.0090	1
p/m-Xylene	ND		mg/kg	0.13	0.036	1
o-Xylene	0.044	J	mg/kg	0.064	0.019	1
Xylenes, Total	0.044	J	mg/kg	0.064	0.019	1
Isopropylbenzene	0.82		mg/kg	0.064	0.0070	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.13	0.012	1
1,2,4-Trimethylbenzene	0.040	J	mg/kg	0.13	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	**185**	Q	70-130
4-Bromofluorobenzene	**167**	Q	70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-18
Client ID: PB-883-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 11:42
Analyst: MV
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	123		70-130
Dibromofluoromethane	115		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-19
Client ID: PB-883-22-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:05
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 10:20
Analyst: AJK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.00024	J	mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	113		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-20
Client ID: PB-883-23-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:15
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 10:40
Analyst: AJK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0030	0.00030	1
Benzene	ND		mg/kg	0.00074	0.00025	1
1,2-Dichloroethane	ND		mg/kg	0.0015	0.00038	1
Toluene	ND		mg/kg	0.0015	0.00081	1
1,2-Dibromoethane	ND		mg/kg	0.00074	0.00044	1
Ethylbenzene	ND		mg/kg	0.0015	0.00021	1
p/m-Xylene	ND		mg/kg	0.0030	0.00083	1
o-Xylene	ND		mg/kg	0.0015	0.00043	1
Xylenes, Total	ND		mg/kg	0.0015	0.00043	1
Isopropylbenzene	ND		mg/kg	0.0015	0.00016	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0030	0.00029	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0030	0.00050	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	110		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-21
Client ID: PB-883-24-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:30
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 11:01
Analyst: AJK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	109		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-22
Client ID: FB-211208-1
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:40
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/20/21 16:24
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/20/21 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-22
Client ID: FB-211208-1
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 14:40
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/19/21 09:21
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-23
Client ID: FB-211208-2
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:45
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/20/21 16:32
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/20/21 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-23
Client ID: FB-211208-2
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:45
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/19/21 09:41
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-24
Client ID: DUP-24
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 00:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 11:22
Analyst: AJK
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00057	0.00019	1
Toluene	ND		mg/kg	0.0011	0.00062	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1
Naphthalene	ND		mg/kg	0.0046	0.00075	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	113		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-25
Client ID: TB-211208
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 00:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/20/21 16:41
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/20/21 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-25
Client ID: TB-211208
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 00:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/22/21 12:22
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	91		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/18/21 17:40
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-05 Batch: WG1585264-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
Toluene	ND		mg/kg	0.0010	0.00054
Ethylbenzene	ND		mg/kg	0.0010	0.00014
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033
Naphthalene	ND		mg/kg	0.0040	0.00065

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2167531

Project Number: 200.00135.005.03 **Report Date:** 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/20/21 10:40
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 18 Batch: WG1585532-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 12/20/21 14:42
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/20/21 12:30

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 22-23,25 Batch: WG1585549-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/19/21 06:32
Analyst: TMS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 06-15,19-21,24 Batch: WG1585594-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033
Naphthalene	ND		mg/kg	0.0040	0.00065

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/19/21 08:42
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 22-23 Batch: WG1585679-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2167531

Project Number: 200.00135.005.03 **Report Date:** 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/20/21 19:34
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 16 Batch: WG1586528-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/22/21 07:39
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 17 Batch: WG1586695-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/22/21 08:23
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 25 Batch: WG1586738-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	100		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167531
Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-05 Batch: WG1585264-3 WG1585264-4								
Methyl tert butyl ether	97		93		66-130	4		30
Benzene	88		90		70-130	2		30
Toluene	84		86		70-130	2		30
Ethylbenzene	87		89		70-130	2		30
Isopropylbenzene	83		84		70-130	1		30
1,3,5-Trimethylbenzene	83		84		70-130	1		30
1,2,4-Trimethylbenzene	83		84		70-130	1		30
Naphthalene	82		78		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	114		112		70-130
Toluene-d8	100		99		70-130
4-Bromofluorobenzene	98		97		70-130
Dibromofluoromethane	109		110		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 18 Batch: WG1585532-3 WG1585532-4								
Methyl tert butyl ether	86		94		66-130	9		30
Benzene	98		97		70-130	1		30
1,2-Dichloroethane	88		91		70-130	3		30
Toluene	100		100		70-130	0		30
1,2-Dibromoethane	93		102		70-130	9		30
Ethylbenzene	101		100		70-130	1		30
p/m-Xylene	105		104		70-130	1		30
o-Xylene	105		104		70-130	1		30
Isopropylbenzene	106		101		70-130	5		30
1,3,5-Trimethylbenzene	109		103		70-130	6		30
1,2,4-Trimethylbenzene	107		103		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	91		93		70-130
Toluene-d8	102		101		70-130
4-Bromofluorobenzene	100		99		70-130
Dibromofluoromethane	96		97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 22-23,25 Batch: WG1585549-2								
1,2-Dibromoethane	98		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 06-15,19-21,24 Batch: WG1585594-3 WG1585594-4								
Methyl tert butyl ether	92		106		66-130	14		30
Benzene	100		101		70-130	1		30
1,2-Dichloroethane	92		99		70-130	7		30
Toluene	103		105		70-130	2		30
1,2-Dibromoethane	96		109		70-130	13		30
Ethylbenzene	106		107		70-130	1		30
p/m-Xylene	110		110		70-130	0		30
o-Xylene	111		113		70-130	2		30
Isopropylbenzene	115		108		70-130	6		30
1,3,5-Trimethylbenzene	118		109		70-130	8		30
1,2,4-Trimethylbenzene	116		109		70-130	6		30
Naphthalene	98		105		70-130	7		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	88		94		70-130
Toluene-d8	102		102		70-130
4-Bromofluorobenzene	101		99		70-130
Dibromofluoromethane	97		97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 22-23 Batch: WG1585679-3 WG1585679-4								
Methyl tert butyl ether	83		89		63-130	7		20
Benzene	96		100		70-130	4		20
1,2-Dichloroethane	88		88		70-130	0		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		110		70-130	10		20
p/m-Xylene	105		110		70-130	5		20
o-Xylene	100		105		70-130	5		20
Isopropylbenzene	99		110		70-130	11		20
1,3,5-Trimethylbenzene	98		100		64-130	2		20
1,2,4-Trimethylbenzene	96		100		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		95		70-130
Toluene-d8	103		102		70-130
4-Bromofluorobenzene	97		100		70-130
Dibromofluoromethane	95		94		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 16 Batch: WG1586528-3 WG1586528-4								
Methyl tert butyl ether	93		92		66-130	1		30
Benzene	100		99		70-130	1		30
1,2-Dichloroethane	79		79		70-130	0		30
Toluene	102		101		70-130	1		30
1,2-Dibromoethane	87		88		70-130	1		30
Ethylbenzene	104		103		70-130	1		30
p/m-Xylene	107		107		70-130	0		30
o-Xylene	105		102		70-130	3		30
Isopropylbenzene	104		99		70-130	5		30
1,3,5-Trimethylbenzene	101		102		70-130	1		30
1,2,4-Trimethylbenzene	100		101		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	87		87		70-130
Toluene-d8	103		104		70-130
4-Bromofluorobenzene	96		97		70-130
Dibromofluoromethane	94		95		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 17 Batch: WG1586695-3 WG1586695-4								
Methyl tert butyl ether	94		96		66-130	2		30
Benzene	89		93		70-130	4		30
1,2-Dichloroethane	90		95		70-130	5		30
Toluene	91		95		70-130	4		30
1,2-Dibromoethane	99		104		70-130	5		30
Ethylbenzene	92		96		70-130	4		30
p/m-Xylene	94		99		70-130	5		30
o-Xylene	93		98		70-130	5		30
Isopropylbenzene	94		96		70-130	2		30
1,3,5-Trimethylbenzene	93		97		70-130	4		30
1,2,4-Trimethylbenzene	93		96		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		97		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	98		96		70-130
Dibromofluoromethane	98		97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 25 Batch: WG1586738-3 WG1586738-4								
Methyl tert butyl ether	82		86		63-130	5		20
Benzene	100		100		70-130	0		20
1,2-Dichloroethane	93		96		70-130	3		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	100		105		70-130	5		20
o-Xylene	95		100		70-130	5		20
Isopropylbenzene	110		100		70-130	10		20
1,3,5-Trimethylbenzene	110		100		64-130	10		20
1,2,4-Trimethylbenzene	110		100		70-130	10		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		100		70-130
Toluene-d8	98		95		70-130
4-Bromofluorobenzene	104		100		70-130
Dibromofluoromethane	97		96		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-08
Client ID: PB-883-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 11:35
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 00:35
Analyst: EK
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	82		30-120
4-Terphenyl-d14	81		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-09
Client ID: PB-883-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 11:55
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 00:58
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	86		30-120
4-Terphenyl-d14	96		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-10
Client ID: PB-883-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 12:15
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 01:21
Analyst: EK
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	85		30-120
4-Terphenyl-d14	91		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-11
Client ID: PB-883-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 12:45
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 01:44
Analyst: EK
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	87		30-120
4-Terphenyl-d14	90		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-12
Client ID: PB-883-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 05:35
Analyst: EK
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	0.028	J	mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	0.021	J	mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	76		30-120
4-Terphenyl-d14	73		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-13
Client ID: PB-883-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:10
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 05:58
Analyst: EK
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	93		30-120
4-Terphenyl-d14	78		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-14
Client ID: PB-883-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:20
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 06:21
Analyst: EK
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.21	0.025	1
Fluorene	ND		mg/kg	0.21	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.035	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	91		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-15 D
Client ID: PB-883-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:25
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/22/21 12:00
Analyst: CMM
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.99	0.12	5
Fluorene	ND		mg/kg	0.99	0.096	5
Phenanthrene	ND		mg/kg	0.59	0.12	5
Anthracene	ND		mg/kg	0.59	0.19	5
Pyrene	0.36	J	mg/kg	0.59	0.098	5
Benzo(a)anthracene	ND		mg/kg	0.59	0.11	5
Chrysene	0.43	J	mg/kg	0.59	0.10	5
Benzo(b)fluoranthene	ND		mg/kg	0.59	0.17	5
Benzo(a)pyrene	ND		mg/kg	0.79	0.24	5
Benzo(ghi)perylene	ND		mg/kg	0.79	0.12	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	57		30-120
4-Terphenyl-d14	53		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-16 D
Client ID: PB-883-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:40
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 15:11
Analyst: CMM
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.90	0.11	5
Fluorene	0.29	J	mg/kg	0.90	0.087	5
Phenanthrene	0.43	J	mg/kg	0.54	0.11	5
Anthracene	ND		mg/kg	0.54	0.18	5
Pyrene	0.20	J	mg/kg	0.54	0.089	5
Benzo(a)anthracene	0.13	J	mg/kg	0.54	0.10	5
Chrysene	0.36	J	mg/kg	0.54	0.094	5
Benzo(b)fluoranthene	ND		mg/kg	0.54	0.15	5
Benzo(a)pyrene	ND		mg/kg	0.72	0.22	5
Benzo(ghi)perylene	ND		mg/kg	0.72	0.10	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	114		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	78		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-17 D
Client ID: PB-883-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:50
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 15:35
Analyst: CMM
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.91	0.11	5
Fluorene	0.25	J	mg/kg	0.91	0.088	5
Phenanthrene	0.52	J	mg/kg	0.54	0.11	5
Anthracene	ND		mg/kg	0.54	0.18	5
Pyrene	0.19	J	mg/kg	0.54	0.090	5
Benzo(a)anthracene	ND		mg/kg	0.54	0.10	5
Chrysene	0.37	J	mg/kg	0.54	0.094	5
Benzo(b)fluoranthene	ND		mg/kg	0.54	0.15	5
Benzo(a)pyrene	ND		mg/kg	0.72	0.22	5
Benzo(ghi)perylene	ND		mg/kg	0.72	0.11	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	93		23-120
2-Fluorobiphenyl	62		30-120
4-Terphenyl-d14	66		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-18
Client ID: PB-883-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 13:36
Analyst: SLR
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.021	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	0.027	J	mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	112		23-120
2-Fluorobiphenyl	84		30-120
4-Terphenyl-d14	80		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-19
Client ID: PB-883-22-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:05
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 07:08
Analyst: EK
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	86		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-20
Client ID: PB-883-23-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:15
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 07:31
Analyst: EK
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	72		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-21
Client ID: PB-883-24-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:30
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 07:55
Analyst: EK
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	78		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-22
Client ID: FB-211208-1
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:40
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/18/21 17:35
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 12/14/21 00:07

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.09	J	ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	70		23-120
2-Fluorobiphenyl	74		15-120
4-Terphenyl-d14	86		41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-23
Client ID: FB-211208-2
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:45
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/18/21 18:37
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 12/14/21 00:07

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	1.1		ug/l	0.10	0.05	1
Fluorene	0.02	J	ug/l	0.10	0.01	1
Phenanthrene	0.13		ug/l	0.05	0.02	1
Anthracene	0.03	J	ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	75		15-120
4-Terphenyl-d14	85		41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-23 RE
Client ID: FB-211208-2
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:45
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/26/21 14:09
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 12/23/21 18:58

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	88		15-120
4-Terphenyl-d14	101		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 12/18/21 17:14
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 12/14/21 00:07

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 22-23 Batch: WG1582804-1					
Naphthalene	0.06	J	ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	0.01	J	ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	79		15-120
4-Terphenyl-d14	90		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/19/21 22:15
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 08-21 Batch: WG1585095-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.097	0.020
Anthracene	ND		mg/kg	0.097	0.032
Pyrene	ND		mg/kg	0.097	0.016
Benzo(a)anthracene	ND		mg/kg	0.097	0.018
Chrysene	ND		mg/kg	0.097	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.097	0.027
Benzo(a)pyrene	ND		mg/kg	0.13	0.039
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	83		30-120
4-Terphenyl-d14	100		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 12/26/21 13:50
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 12/23/21 15:09

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 23 Batch: WG1587278-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	56		23-120
2-Fluorobiphenyl	64		15-120
4-Terphenyl-d14	74		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 22-23 Batch: WG1582804-2 WG1582804-3								
Naphthalene	81		77		40-140	5		40
Fluorene	86		84		40-140	2		40
Phenanthrene	79		78		40-140	1		40
Anthracene	89		87		40-140	2		40
Pyrene	90		89		26-127	1		40
Benzo(a)anthracene	81		80		40-140	1		40
Chrysene	91		92		40-140	1		40
Benzo(b)fluoranthene	81		83		40-140	2		40
Benzo(a)pyrene	91		89		40-140	2		40
Benzo(ghi)perylene	82		80		40-140	2		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	81		82		23-120
2-Fluorobiphenyl	90		84		15-120
4-Terphenyl-d14	95		94		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 08-21 Batch: WG1585095-2 WG1585095-3								
Naphthalene	75		88		40-140	16		50
Fluorene	83		99		40-140	18		50
Phenanthrene	81		95		40-140	16		50
Anthracene	82		96		40-140	16		50
Pyrene	82		97		35-142	17		50
Benzo(a)anthracene	86		103		40-140	18		50
Chrysene	82		98		40-140	18		50
Benzo(b)fluoranthene	84		106		40-140	23		50
Benzo(a)pyrene	81		98		40-140	19		50
Benzo(ghi)perylene	91		109		40-140	18		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	73		84		23-120
2-Fluorobiphenyl	83		98		30-120
4-Terphenyl-d14	89		104		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 23 Batch: WG1587278-2 WG1587278-3								
Naphthalene	56		65		40-140	15		40
Fluorene	62		71		40-140	14		40
Phenanthrene	60		73		40-140	20		40
Anthracene	64		73		40-140	13		40
Pyrene	65		88		26-127	30		40
Benzo(a)anthracene	62		81		40-140	27		40
Chrysene	61		82		40-140	29		40
Benzo(b)fluoranthene	69		96		40-140	33		40
Benzo(a)pyrene	67		91		40-140	30		40
Benzo(ghi)perylene	57		76		40-140	29		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	55		63		23-120
2-Fluorobiphenyl	63		70		15-120
4-Terphenyl-d14	68		78		41-149

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-08
Client ID: PB-883-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 11:35
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	12.8		mg/kg	2.48	0.133	1	12/20/21 23:32	12/22/21 00:53	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-09
Client ID: PB-883-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 11:55
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.18		mg/kg	2.03	0.109	1	12/20/21 23:32	12/22/21 00:34	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-10
Client ID: PB-883-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 12:15
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.67		mg/kg	2.14	0.114	1	12/20/21 23:32	12/22/21 00:39	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-11
Client ID: PB-883-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 12:45
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.25		mg/kg	2.32	0.124	1	12/20/21 23:32	12/22/21 00:44	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-12
Client ID: PB-883-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 13:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	11.0		mg/kg	2.27	0.122	1	12/20/21 23:32	12/22/21 00:48	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-13
Client ID: PB-883-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 13:10
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.72		mg/kg	2.44	0.130	1	12/20/21 23:32	12/22/21 01:25	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-14
Client ID: PB-883-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 13:20
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.14		mg/kg	2.35	0.126	1	12/20/21 23:32	12/22/21 01:30	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-15
Client ID: PB-883-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 13:25
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	8.62		mg/kg	2.28	0.122	1	12/20/21 23:32	12/22/21 01:35	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-16
Client ID: PB-883-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 13:40
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.06		mg/kg	4.20	0.225	2	12/20/21 23:32	12/22/21 11:19	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-17
Client ID: PB-883-18-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 13:50
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.49		mg/kg	4.24	0.227	2	12/20/21 23:32	12/22/21 11:24	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-18
Client ID: PB-883-19-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 14:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.75		mg/kg	4.24	0.228	2	12/20/21 23:32	12/22/21 11:29	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-19
Client ID: PB-883-22-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 14:05
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.03		mg/kg	2.25	0.121	1	12/20/21 23:32	12/22/21 01:54	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-20
Client ID: PB-883-23-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 14:15
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.64		mg/kg	2.26	0.121	1	12/20/21 23:32	12/22/21 01:58	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-21
Client ID: PB-883-24-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 14:30
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.46		mg/kg	2.27	0.122	1	12/20/21 23:32	12/22/21 02:03	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-22
Client ID: FB-211208-1
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 14:40
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	12/14/21 05:12	12/17/21 02:53	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-23
Client ID: FB-211208-2
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 14:45
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	12/14/21 05:12	12/17/21 02:57	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 22-23 Batch: WG1582832-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	12/14/21 05:12	12/16/21 23:54	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 08-21 Batch: WG1585605-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	12/20/21 23:32	12/22/21 00:16	1,6010D	BV

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 22-23 Batch: WG1582832-2								
Lead, Total	100		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 08-21 Batch: WG1585605-2 SRM Lot Number: D113-540								
Lead, Total	84		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167531
Report Date: 12/27/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 22-23 QC Batch ID: WG1582832-3 WG1582832-4 QC Sample: L2167147-05 Client ID: MS Sample												
Lead, Total	1.973	530	492.8	93		482.8	91		75-125	2		20
Total Metals - Mansfield Lab Associated sample(s): 08-21 QC Batch ID: WG1585605-3 QC Sample: L2167531-08 Client ID: PB-883-08-SS01												
Lead, Total	12.8	51	44.9	**63**	Q	-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 08-21 QC Batch ID: WG1585605-4 QC Sample: L2167531-08 Client ID: PB-883-08-SS01						
Lead, Total	12.8	10.9	mg/kg	16		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-01
Client ID: PB-253-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 09:10
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.9		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-02
Client ID: PB-253-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 09:20
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.5		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-03
Client ID: PB-253-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 09:35
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.0		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-04
Client ID: PB-253-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 09:50
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.8		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-05
Client ID: PB-253-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 10:00
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.2		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-06
Client ID: PB-253-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 10:15
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.8		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-07
Client ID: PB-253-17-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 10:30
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.8		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-08
Client ID: PB-883-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 11:35
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.8		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-09
Client ID: PB-883-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 11:55
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.6		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-10
Client ID: PB-883-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 12:15
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.9		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-11
Client ID: PB-883-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 12:45
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-12
Client ID: PB-883-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 13:00
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.9		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-13
Client ID: PB-883-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 13:10
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.6		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-14
Client ID: PB-883-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 13:20
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.4		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-15
Client ID: PB-883-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 13:25
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.4		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-16
Client ID: PB-883-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 13:40
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.2		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-17
Client ID: PB-883-18-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 13:50
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.9		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-18
Client ID: PB-883-19-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 14:00
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.1		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-19
Client ID: PB-883-22-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 14:05
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.7		%	0.100	NA	1	-	12/10/21 10:21	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-20
Client ID: PB-883-23-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 14:15
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.9		%	0.100	NA	1	-	12/10/21 10:21	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-21
Client ID: PB-883-24-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 14:30
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.7		%	0.100	NA	1	-	12/10/21 10:21	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-24
Client ID: DUP-24
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 00:00
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.3		%	0.100	NA	1	-	12/10/21 10:21	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-18 QC Batch ID: WG1581531-1 QC Sample: L2167531-01 Client ID: PB-253-11-SS01						
Solids, Total	86.9	85.4	%	2		20
General Chemistry - Westborough Lab Associated sample(s): 19-21,24 QC Batch ID: WG1581534-1 QC Sample: L2167542-04 Client ID: DUP Sample						
Solids, Total	89.6	90.1	%	1		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167531
Report Date: 12/27/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent
D	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167531-01A	Vial MeOH preserved	A	NA		2.2	Y	Absent		PA-8260HLW(14)
L2167531-01B	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-01C	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-01D	Plastic 2oz unpreserved for TS	A	NA		2.2	Y	Absent		TS(7)
L2167531-02A	Vial MeOH preserved	A	NA		2.2	Y	Absent		PA-8260HLW(14)
L2167531-02B	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-02C	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-02D	Plastic 2oz unpreserved for TS	A	NA		2.2	Y	Absent		TS(7)
L2167531-03A	Vial MeOH preserved	A	NA		2.2	Y	Absent		PA-8260HLW(14)
L2167531-03B	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-03C	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-03D	Plastic 2oz unpreserved for TS	A	NA		2.2	Y	Absent		TS(7)
L2167531-04A	Vial MeOH preserved	A	NA		2.2	Y	Absent		PA-8260HLW(14)
L2167531-04B	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-04C	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-04D	Plastic 2oz unpreserved for TS	A	NA		2.2	Y	Absent		TS(7)
L2167531-05A	Vial MeOH preserved	A	NA		2.2	Y	Absent		PA-8260HLW(14)
L2167531-05B	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-05C	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-05D	Plastic 2oz unpreserved for TS	A	NA		2.2	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167531
Report Date: 12/27/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167531-06A	Vial MeOH preserved	A	NA		2.2	Y	Absent		PA-8260HLW(14)
L2167531-06B	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-06C	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-06D	Plastic 2oz unpreserved for TS	A	NA		2.2	Y	Absent		TS(7)
L2167531-07A	Vial MeOH preserved	A	NA		2.2	Y	Absent		PA-8260HLW(14)
L2167531-07B	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-07C	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-07D	Plastic 2oz unpreserved for TS	A	NA		2.2	Y	Absent		TS(7)
L2167531-08A	Vial MeOH preserved	C	NA		2.6	Y	Absent		PA-8260HLW(14)
L2167531-08B	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-08C	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-08D	Plastic 2oz unpreserved for TS	C	NA		2.6	Y	Absent		TS(7)
L2167531-08E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.6	Y	Absent		PB-TI(180)
L2167531-08F	Glass 120ml/4oz unpreserved	C	NA		2.6	Y	Absent		PA-PAH(14)
L2167531-09A	Vial MeOH preserved	C	NA		2.6	Y	Absent		PA-8260HLW(14)
L2167531-09B	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-09C	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-09D	Plastic 2oz unpreserved for TS	C	NA		2.6	Y	Absent		TS(7)
L2167531-09E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.6	Y	Absent		PB-TI(180)
L2167531-09F	Glass 120ml/4oz unpreserved	C	NA		2.6	Y	Absent		PA-PAH(14)
L2167531-10A	Vial MeOH preserved	C	NA		2.6	Y	Absent		PA-8260HLW(14)
L2167531-10B	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-10C	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-10D	Plastic 2oz unpreserved for TS	C	NA		2.6	Y	Absent		TS(7)
L2167531-10E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.6	Y	Absent		PB-TI(180)
L2167531-10F	Glass 120ml/4oz unpreserved	C	NA		2.6	Y	Absent		PA-PAH(14)
L2167531-11A	Vial MeOH preserved	C	NA		2.6	Y	Absent		PA-8260HLW(14)
L2167531-11B	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167531
Report Date: 12/27/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167531-11C	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-11D	Plastic 2oz unpreserved for TS	C	NA		2.6	Y	Absent		TS(7)
L2167531-11E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.6	Y	Absent		PB-TI(180)
L2167531-11F	Glass 120ml/4oz unpreserved	C	NA		2.6	Y	Absent		PA-PAH(14)
L2167531-12A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167531-12B	Vial water preserved	B	NA		2.1	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-12C	Vial water preserved	B	NA		2.1	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-12D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167531-12E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2167531-12F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2167531-13A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167531-13B	Vial water preserved	B	NA		2.1	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-13C	Vial water preserved	B	NA		2.1	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-13D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167531-13E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2167531-13F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2167531-14A	Vial MeOH preserved	C	NA		2.6	Y	Absent		PA-8260HLW(14)
L2167531-14B	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-14C	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-14D	Plastic 2oz unpreserved for TS	C	NA		2.6	Y	Absent		TS(7)
L2167531-14E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.6	Y	Absent		PB-TI(180)
L2167531-14F	Glass 120ml/4oz unpreserved	C	NA		2.6	Y	Absent		PA-PAH(14)
L2167531-15A	Vial MeOH preserved	C	NA		2.6	Y	Absent		PA-8260HLW(14)
L2167531-15B	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-15C	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-15D	Plastic 2oz unpreserved for TS	C	NA		2.6	Y	Absent		TS(7)
L2167531-15E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.6	Y	Absent		PB-TI(180)
L2167531-15F	Glass 120ml/4oz unpreserved	C	NA		2.6	Y	Absent		PA-PAH(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167531
Report Date: 12/27/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167531-16A	Vial MeOH preserved	D	NA		2.5	Y	Absent		PA-8260HLW(14)
L2167531-16B	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-16C	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-16D	Plastic 2oz unpreserved for TS	D	NA		2.5	Y	Absent		TS(7)
L2167531-16E	Metals Only-Glass 60mL/2oz unpreserved	D	NA		2.5	Y	Absent		PB-TI(180)
L2167531-16F	Glass 120ml/4oz unpreserved	D	NA		2.5	Y	Absent		PA-PAH(14)
L2167531-17A	Vial MeOH preserved	D	NA		2.5	Y	Absent		PA-8260HLW(14)
L2167531-17B	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-17C	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-17D	Plastic 2oz unpreserved for TS	D	NA		2.5	Y	Absent		TS(7)
L2167531-17E	Metals Only-Glass 60mL/2oz unpreserved	D	NA		2.5	Y	Absent		PB-TI(180)
L2167531-17F	Glass 120ml/4oz unpreserved	D	NA		2.5	Y	Absent		PA-PAH(14)
L2167531-18A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167531-18B	Vial water preserved	B	NA		2.1	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-18C	Vial water preserved	B	NA		2.1	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-18D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167531-18E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2167531-18F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2167531-19A	Vial MeOH preserved	D	NA		2.5	Y	Absent		PA-8260HLW(14)
L2167531-19B	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-19C	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-19D	Plastic 2oz unpreserved for TS	D	NA		2.5	Y	Absent		TS(7)
L2167531-19E	Metals Only-Glass 60mL/2oz unpreserved	D	NA		2.5	Y	Absent		PB-TI(180)
L2167531-19F	Glass 120ml/4oz unpreserved	D	NA		2.5	Y	Absent		PA-PAH(14)
L2167531-20A	Vial MeOH preserved	D	NA		2.5	Y	Absent		PA-8260HLW(14)
L2167531-20B	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-20C	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-20D	Plastic 2oz unpreserved for TS	D	NA		2.5	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167531
Report Date: 12/27/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167531-20E	Metals Only-Glass 60mL/2oz unpreserved	D	NA		2.5	Y	Absent		PB-TI(180)
L2167531-20F	Glass 120ml/4oz unpreserved	D	NA		2.5	Y	Absent		PA-PAH(14)
L2167531-21A	Vial MeOH preserved	A	NA		2.2	Y	Absent		PA-8260HLW(14)
L2167531-21B	Vial water preserved	B	NA		2.1	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-21C	Vial water preserved	B	NA		2.1	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-21D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167531-21E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2167531-21F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2167531-22A	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2167531-22B	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2167531-22C	Vial HCl preserved	A	NA		2.2	Y	Absent		8011(14)
L2167531-22D	Plastic 250ml HNO3 preserved	A	<2	<2	2.2	Y	Absent		PB-6020T-PPB(180)
L2167531-22E	Amber 250ml unpreserved	A	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2167531-22F	Amber 250ml unpreserved	A	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2167531-23A	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2167531-23B	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2167531-23C	Vial HCl preserved	A	NA		2.2	Y	Absent		8011(14)
L2167531-23D	Plastic 250ml HNO3 preserved	A	<2	<2	2.2	Y	Absent		PB-6020T-PPB(180)
L2167531-23E	Amber 250ml unpreserved	A	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2167531-23F	Amber 250ml unpreserved	A	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2167531-24A	Vial MeOH preserved	D	NA		2.5	Y	Absent		PA-8260HLW(14)
L2167531-24B	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-24C	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-24D	Plastic 2oz unpreserved for TS	D	NA		2.5	Y	Absent		TS(7)
L2167531-25A	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2167531-25B	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2167531-25C	Vial Na2S2O3 preserved	A	NA		2.2	Y	Absent		8011(14)
L2167531-25D	Vial Na2S2O3 preserved	A	NA		2.2	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
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Report Date: 12/27/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)

*Values in parentheses indicate holding time in days

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GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

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Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

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Project Number:	200.00135.005.03	**Report Date:**	12/27/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

L2167531

CHAIN OF CUSTODY

PAGE 1 OF 3

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/9/21

ALPHA Job #: L2167531 GC

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client Info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist		Sample Specific Comments	TOTAL # BOTTLES
67531-01	PB-253-11-5501	12/8	0910	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-02	PB-253-12-5501		0940	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-03	PB-253-13-5501		0935	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-04	PB-253-14-5501		0950	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-05	PB-253-15-5501		1000	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-06	PB-253-16-5501		1015	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-07	PB-253-17-5501		1030	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-08	PB-883-08-5501		1135	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-09	PB-883-09-5501		1155	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-10	PB-883-10-5501	↓	1215	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
	Container Type					G	G	G	-	-	-	-	-	-	-	-	-		
	Preservative					F	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	12/8 1533		12/8/21 1530
	12/8/21 1730		12-8 1730
12-8 2030		AAL	12/8/21 2100
AAL 12/9/21 0520	12/9/21	12/8/21 0345	
		12/09/21 0525	

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-07(1-12) (rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 2 OF 3

Date Rec'd in Lab: 12/9/21

ALPHA Job #: L2167531

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
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Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist		Sample Specific Comments	TOTAL # BOTTLES
67531-11	PB-883-11-5501	12/8	1245	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-12	PB-883-12-5501		1300	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-13	PB-883-13-5501		1310	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-14	PB-883-14-5501		1320	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-15	PB-883-16-5501		1325	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-16	PB-883-17-5501		1340	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-17	PB-883-18-5501		1350	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-18	PB-883-19-5501		1400	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-19	PB-883-22-5501		1405			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-20	PB-883-23-5501		1415			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
	Container Type					G	G	G	-	-	-	-	-	-	-	-	-		
	Preservative					F	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	12/8 1553		12/8/21 15:35
	12/8/21 1730		12-8 1730
	12/8 2037		12/8/21 21:00
	12/9/21		12/9/21 0345
	12/9/21 0512		12/9/21 0520

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(G)-NJ (rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 3 OF 3

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/9/21

ALPHA Job #: L2167531

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Trenton, NJ 08619
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Fax:
Email: William.Schmidt@ransomenv.com
☐ These samples have been Previously analyzed by Alpha

Project Information

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Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information – Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

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ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist (1-5)		Sample Specific Comments	TOTAL # BOTTLES
67531-21	PB-883-24-5501	12/8	1430	S	IS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		8
-22	FB-211208-1		1440	W	IS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		7
-23	FB-211208-2		1445	W	IS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		7
-24	DUP-24		-	S	IS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-25	TB-211208		-	W	IS	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		

Container Type	G	G	G	-	-	-	-	-	-	-	-	-	
Preservative	F	A	A	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
	12/8 1533		12/8/21 1535
	12/8/21 1730		12/8/21 1930
	12/8 2030		

12/9/21 12/9/21 0520 12/10/21 0520

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

2100

FORM NO: 01-01(HR) (rev. 5-JAN-12)

PADEP Short List Analytical List:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6. and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

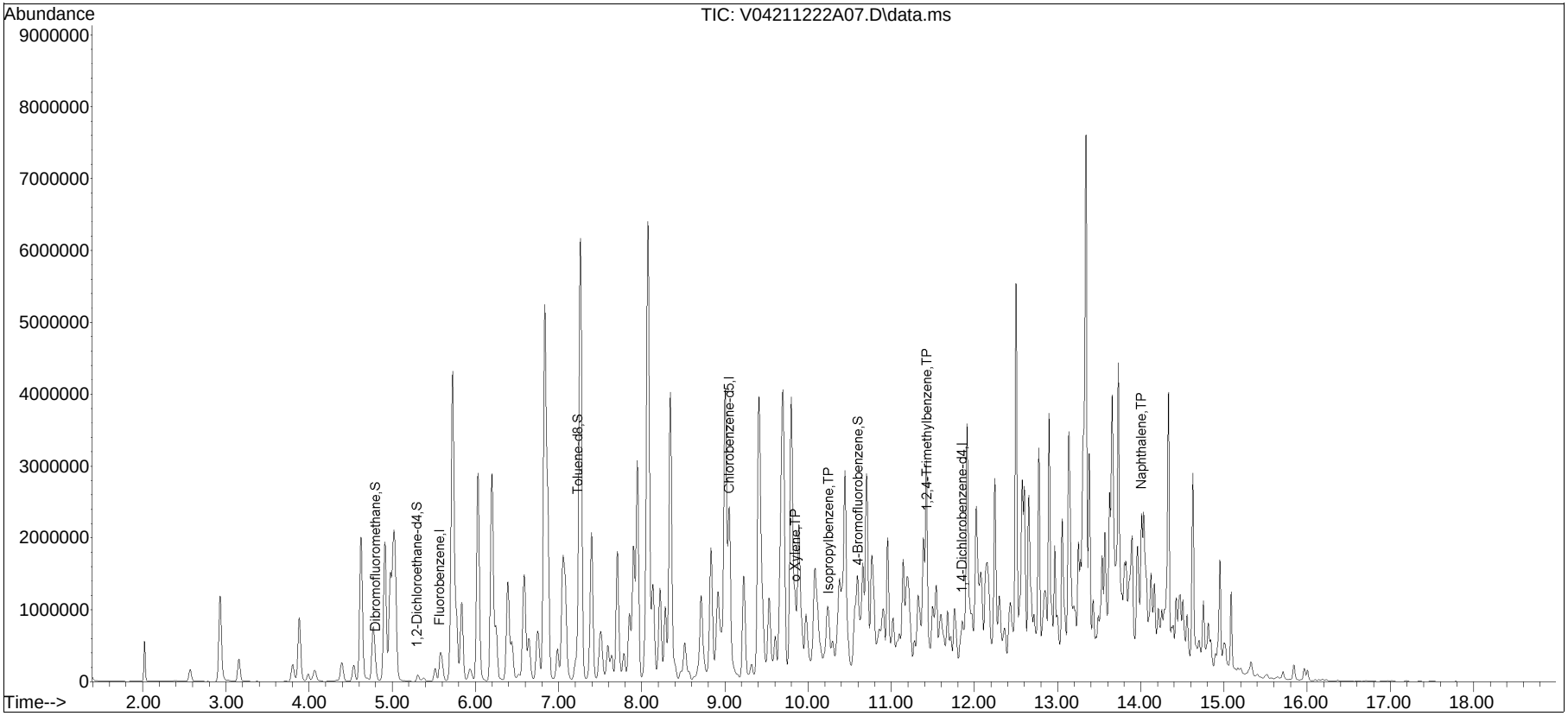
6. Waste Oil – benzene, toluene, ethyl benzene, cumene, naphthalene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, lead

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA104\2021\211222A\
Data File : V04211222A07.D
Acq On : 22 Dec 2021 8:04 am
Operator : VOA104:MV
Sample : L2167531-17,31H,4.66,5,0.100,,A
Misc : WG1586695,18128ICAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 22 12:12:01 2021
Quant Method : I:\VOLATILES\VOA104\2021\211222A\V104_211214A_8260D.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Dec 14 09:33:11 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list22A\V04211222A01.D•



ANALYTICAL REPORT

Lab Number:	L2167657
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.005.03
Report Date:	12/28/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167657
Report Date: 12/28/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2167657-01	PB-191-01-SS01	SOIL	PHILADELPHIA, PA	12/09/21 09:20	12/09/21
L2167657-02	PB-191-02-SS01	SOIL	PHILADELPHIA, PA	12/09/21 09:40	12/09/21
L2167657-03	PB-191-04-SS01	SOIL	PHILADELPHIA, PA	12/09/21 09:55	12/09/21
L2167657-04	PB-191-05-SS01	SOIL	PHILADELPHIA, PA	12/09/21 10:20	12/09/21
L2167657-05	PB-191-06-SS01	SOIL	PHILADELPHIA, PA	12/09/21 10:30	12/09/21
L2167657-06	PB-191-07-SS01	SOIL	PHILADELPHIA, PA	12/09/21 10:45	12/09/21
L2167657-07	PB-191-08-SS01	SOIL	PHILADELPHIA, PA	12/09/21 10:55	12/09/21
L2167657-08	DUP-25	SOIL	PHILADELPHIA, PA	12/09/21 00:00	12/09/21
L2167657-09	FB-211209	WATER	PHILADELPHIA, PA	12/09/21 11:00	12/09/21
L2167657-10	TB-211209	WATER	PHILADELPHIA, PA	12/09/21 00:00	12/09/21

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167657
Project Number:	200.00135.005.03	**Report Date:**	12/28/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167657
Project Number:	200.00135.005.03	**Report Date:**	12/28/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2167657-02: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (134%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2167657-03: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (163%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2167657-05: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (146%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2167657-06: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (135%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2167657-07: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (136%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Semivolatile Organics

L2167657-05D: The sample has elevated detection limits due to the dilution required by the sample matrix.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Caitlin Walukevich

Title: Technical Director/Representative Date: 12/28/21

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-01
Client ID: PB-191-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 09:20
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 10:37
Analyst: MV
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0029	0.00029	1
Benzene	ND		mg/kg	0.00073	0.00024	1
1,2-Dichloroethane	ND		mg/kg	0.0014	0.00037	1
Toluene	ND		mg/kg	0.0014	0.00079	1
1,2-Dibromoethane	ND		mg/kg	0.00073	0.00043	1
Ethylbenzene	ND		mg/kg	0.0014	0.00020	1
p/m-Xylene	ND		mg/kg	0.0029	0.00081	1
o-Xylene	ND		mg/kg	0.0014	0.00042	1
Xylenes, Total	ND		mg/kg	0.0014	0.00042	1
Isopropylbenzene	ND		mg/kg	0.0014	0.00016	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0029	0.00028	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0029	0.00049	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-02
Client ID: PB-191-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 09:40
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 11:28
Analyst: MV
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0049	0.00049	1
Benzene	0.0094		mg/kg	0.0012	0.00040	1
1,2-Dichloroethane	ND		mg/kg	0.0024	0.00063	1
Toluene	0.0015	J	mg/kg	0.0024	0.0013	1
1,2-Dibromoethane	ND		mg/kg	0.0012	0.00072	1
Ethylbenzene	0.0012	J	mg/kg	0.0024	0.00034	1
p/m-Xylene	0.0028	J	mg/kg	0.0049	0.0014	1
o-Xylene	0.0019	J	mg/kg	0.0024	0.00071	1
Xylenes, Total	0.0047	J	mg/kg	0.0024	0.00071	1
Isopropylbenzene	0.0022	J	mg/kg	0.0024	0.00027	1
1,3,5-Trimethylbenzene	0.00054	J	mg/kg	0.0049	0.00047	1
1,2,4-Trimethylbenzene	0.0013	J	mg/kg	0.0049	0.00082	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	125		70-130
4-Bromofluorobenzene	**134**	Q	70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-03
Client ID: PB-191-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 09:55
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 19:07
Analyst: JC
Percent Solids: 74%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0026	0.00026	1
Benzene	0.0012		mg/kg	0.00065	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00033	1
Toluene	ND		mg/kg	0.0013	0.00070	1
1,2-Dibromoethane	ND		mg/kg	0.00065	0.00038	1
Ethylbenzene	0.0010	J	mg/kg	0.0013	0.00018	1
p/m-Xylene	0.0019	J	mg/kg	0.0026	0.00072	1
o-Xylene	0.0013		mg/kg	0.0013	0.00038	1
Xylenes, Total	0.0032	J	mg/kg	0.0013	0.00038	1
Isopropylbenzene	0.0015		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	0.0013	J	mg/kg	0.0026	0.00025	1
1,2,4-Trimethylbenzene	0.0023	J	mg/kg	0.0026	0.00043	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	**163**	Q	70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-04
Client ID: PB-191-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 10:20
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 19:28
Analyst: JC
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00063	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00065	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	0.00027	J	mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	91		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-05
Client ID: PB-191-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 10:30
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 11:52
Analyst: MV
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00057	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00057	0.00034	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00064	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	0.0036		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	0.00046	J	mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	**146**	Q	70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-06
Client ID: PB-191-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 10:45
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 01:22
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0043	0.00043	1
Benzene	ND		mg/kg	0.0011	0.00036	1
1,2-Dichloroethane	ND		mg/kg	0.0022	0.00055	1
Toluene	ND		mg/kg	0.0022	0.0012	1
1,2-Dibromoethane	ND		mg/kg	0.0011	0.00063	1
Ethylbenzene	ND		mg/kg	0.0022	0.00030	1
p/m-Xylene	ND		mg/kg	0.0043	0.0012	1
o-Xylene	ND		mg/kg	0.0022	0.00063	1
Xylenes, Total	ND		mg/kg	0.0022	0.00063	1
Isopropylbenzene	ND		mg/kg	0.0022	0.00023	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0043	0.00042	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0043	0.00072	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	**135**	Q	70-130
Dibromofluoromethane	89		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-07
Client ID: PB-191-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 10:55
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 01:42
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	0.00030	J	mg/kg	0.00057	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00057	0.00033	1
Ethylbenzene	0.00021	J	mg/kg	0.0011	0.00016	1
p/m-Xylene	0.0023		mg/kg	0.0023	0.00064	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	0.0023		mg/kg	0.0011	0.00033	1
Isopropylbenzene	0.0030		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.00066	J	mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	0.0031		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	**136**	Q	70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-08
Client ID: DUP-25
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 00:00
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 11:02
Analyst: MV
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0028	0.00028	1
Benzene	ND		mg/kg	0.00071	0.00023	1
1,2-Dichloroethane	ND		mg/kg	0.0014	0.00036	1
Toluene	ND		mg/kg	0.0014	0.00077	1
1,2-Dibromoethane	ND		mg/kg	0.00071	0.00041	1
Ethylbenzene	ND		mg/kg	0.0014	0.00020	1
p/m-Xylene	ND		mg/kg	0.0028	0.00079	1
o-Xylene	ND		mg/kg	0.0014	0.00041	1
Xylenes, Total	ND		mg/kg	0.0014	0.00041	1
Isopropylbenzene	0.0082		mg/kg	0.0014	0.00015	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0028	0.00027	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0028	0.00047	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-09
Client ID: FB-211209
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 11:00
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/20/21 16:49
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/20/21 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-09
Client ID: FB-211209
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 11:00
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/19/21 10:01
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-10
Client ID: TB-211209
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 00:00
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/20/21 16:58
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/20/21 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-10
Client ID: TB-211209
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 00:00
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/23/21 09:02
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	114		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 12/20/21 14:42
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/20/21 12:30

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 09-10 Batch: WG1585549-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/19/21 08:42
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 09 Batch: WG1585679-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/20/21 09:21
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02,05,08 Batch: WG1586011-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2167657

Project Number: 200.00135.005.03 **Report Date:** 12/28/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/19/21 15:42
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03-04,06-07 Batch: WG1586116-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	86		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2167657

Project Number: 200.00135.005.03 **Report Date:** 12/28/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/23/21 08:15
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 10 Batch: WG1587235-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	112		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167657

Report Date: 12/28/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 09-10 Batch: WG1585549-2								
1,2-Dibromoethane	98		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167657

Report Date: 12/28/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 09 Batch: WG1585679-3 WG1585679-4								
Methyl tert butyl ether	83		89		63-130	7		20
Benzene	96		100		70-130	4		20
1,2-Dichloroethane	88		88		70-130	0		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		110		70-130	10		20
p/m-Xylene	105		110		70-130	5		20
o-Xylene	100		105		70-130	5		20
Isopropylbenzene	99		110		70-130	11		20
1,3,5-Trimethylbenzene	98		100		64-130	2		20
1,2,4-Trimethylbenzene	96		100		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		95		70-130
Toluene-d8	103		102		70-130
4-Bromofluorobenzene	97		100		70-130
Dibromofluoromethane	95		94		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167657

Report Date: 12/28/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02,05,08 Batch: WG1586011-3 WG1586011-4								
Methyl tert butyl ether	106		106		66-130	0		30
Benzene	110		108		70-130	2		30
1,2-Dichloroethane	103		104		70-130	1		30
Toluene	108		108		70-130	0		30
1,2-Dibromoethane	99		104		70-130	5		30
Ethylbenzene	111		111		70-130	0		30
p/m-Xylene	119		119		70-130	0		30
o-Xylene	117		117		70-130	0		30
Isopropylbenzene	114		111		70-130	3		30
1,3,5-Trimethylbenzene	115		113		70-130	2		30
1,2,4-Trimethylbenzene	116		114		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		99		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	94		96		70-130
Dibromofluoromethane	102		103		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 03-04,06-07 Batch: WG1586116-3 WG1586116-4								
Methyl tert butyl ether	84		93		66-130	10		30
Benzene	100		88		70-130	13		30
1,2-Dichloroethane	78		75		70-130	4		30
Toluene	99		86		70-130	14		30
1,2-Dibromoethane	81		85		70-130	5		30
Ethylbenzene	98		84		70-130	15		30
p/m-Xylene	100		86		70-130	15		30
o-Xylene	97		86		70-130	12		30
Isopropylbenzene	102		85		70-130	18		30
1,3,5-Trimethylbenzene	97		83		70-130	16		30
1,2,4-Trimethylbenzene	95		82		70-130	15		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	80		83		70-130
Toluene-d8	99		98		70-130
4-Bromofluorobenzene	94		95		70-130
Dibromofluoromethane	85		83		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167657

Report Date: 12/28/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 10 Batch: WG1587235-3 WG1587235-4								
Methyl tert butyl ether	92		99		63-130	7		20
Benzene	100		110		70-130	10		20
1,2-Dichloroethane	110		120		70-130	9		20
Toluene	100		110		70-130	10		20
Ethylbenzene	100		110		70-130	10		20
p/m-Xylene	100		105		70-130	5		20
o-Xylene	100		105		70-130	5		20
Isopropylbenzene	100		110		70-130	10		20
1,3,5-Trimethylbenzene	97		100		64-130	3		20
1,2,4-Trimethylbenzene	96		99		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	112		114		70-130
Toluene-d8	105		104		70-130
4-Bromofluorobenzene	99		99		70-130
Dibromofluoromethane	103		105		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-01
Client ID: PB-191-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 09:20
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 21:05
Analyst: CMM
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 12/19/21 12:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.039	J	mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	0.11	J	mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	0.22		mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.17		mg/kg	0.12	0.022	1
Chrysene	0.16		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.19		mg/kg	0.12	0.033	1
Benzo(a)pyrene	0.15	J	mg/kg	0.16	0.048	1
Indeno(1,2,3-cd)pyrene	0.10	J	mg/kg	0.16	0.027	1
Benzo(ghi)perylene	0.088	J	mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	61		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-02
Client ID: PB-191-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 09:40
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 21:28
Analyst: CMM
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 12/19/21 11:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.063	J	mg/kg	0.21	0.025	1
Fluorene	ND		mg/kg	0.21	0.020	1
Phenanthrene	0.092	J	mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	0.10	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.077	J	mg/kg	0.12	0.023	1
Chrysene	0.080	J	mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	0.089	J	mg/kg	0.12	0.035	1
Benzo(a)pyrene	0.071	J	mg/kg	0.16	0.050	1
Indeno(1,2,3-cd)pyrene	0.055	J	mg/kg	0.16	0.029	1
Benzo(ghi)perylene	0.062	J	mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	54		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-03
Client ID: PB-191-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 09:55
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 21:52
Analyst: CMM
Percent Solids: 74%

Extraction Method: EPA 3546
Extraction Date: 12/19/21 11:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.10	J	mg/kg	0.22	0.027	1
Fluorene	0.054	J	mg/kg	0.22	0.022	1
Phenanthrene	0.19		mg/kg	0.13	0.027	1
Anthracene	0.049	J	mg/kg	0.13	0.043	1
Pyrene	0.14		mg/kg	0.13	0.022	1
Benzo(a)anthracene	0.095	J	mg/kg	0.13	0.025	1
Chrysene	0.095	J	mg/kg	0.13	0.023	1
Benzo(b)fluoranthene	0.099	J	mg/kg	0.13	0.038	1
Benzo(a)pyrene	0.076	J	mg/kg	0.18	0.054	1
Indeno(1,2,3-cd)pyrene	0.056	J	mg/kg	0.18	0.031	1
Benzo(ghi)perylene	0.056	J	mg/kg	0.18	0.026	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	57		30-120
4-Terphenyl-d14	48		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-04
Client ID: PB-191-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 10:20
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 04:18
Analyst: CMM
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 12/19/21 11:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.021	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.14	0.024	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	71		30-120
4-Terphenyl-d14	76		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-05 D
Client ID: PB-191-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 10:30
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/23/21 11:44
Analyst: CMM
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 12/19/21 12:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	1.0	0.12	5
Fluorene	ND		mg/kg	1.0	0.098	5
Phenanthrene	ND		mg/kg	0.60	0.12	5
Anthracene	ND		mg/kg	0.60	0.20	5
Pyrene	ND		mg/kg	0.60	0.10	5
Benzo(a)anthracene	ND		mg/kg	0.60	0.11	5
Chrysene	ND		mg/kg	0.60	0.10	5
Benzo(b)fluoranthene	ND		mg/kg	0.60	0.17	5
Benzo(a)pyrene	ND		mg/kg	0.80	0.24	5
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.80	0.14	5
Benzo(ghi)perylene	ND		mg/kg	0.80	0.12	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	54		23-120
2-Fluorobiphenyl	55		30-120
4-Terphenyl-d14	56		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-06
Client ID: PB-191-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 10:45
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 22:16
Analyst: CMM
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 12/19/21 12:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.23		mg/kg	0.20	0.024	1
Fluorene	0.061	J	mg/kg	0.20	0.019	1
Phenanthrene	0.77		mg/kg	0.12	0.024	1
Anthracene	0.16		mg/kg	0.12	0.039	1
Pyrene	0.44		mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.21		mg/kg	0.12	0.022	1
Chrysene	0.26		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	0.17		mg/kg	0.12	0.034	1
Benzo(a)pyrene	0.18		mg/kg	0.16	0.049	1
Indeno(1,2,3-cd)pyrene	0.11	J	mg/kg	0.16	0.028	1
Benzo(ghi)perylene	0.19		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	67		30-120
4-Terphenyl-d14	70		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-07
Client ID: PB-191-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 10:55
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 22:39
Analyst: CMM
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 12/19/21 11:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.059	J	mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	0.084	J	mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	0.070	J	mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.047	J	mg/kg	0.12	0.022	1
Chrysene	0.052	J	mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.054	J	mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Indeno(1,2,3-cd)pyrene	0.031	J	mg/kg	0.16	0.027	1
Benzo(ghi)perylene	0.043	J	mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	57		30-120
4-Terphenyl-d14	48		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-08
Client ID: DUP-25
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 00:00
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 23:02
Analyst: CMM
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 12/19/21 12:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	0.044	J	mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	0.021	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.16	0.028	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	62		30-120
4-Terphenyl-d14	68		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-09
Client ID: FB-211209
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 11:00
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/19/21 21:53
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 12/14/21 15:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	29		21-120
Phenol-d6	31		10-120
Nitrobenzene-d5	57		23-120
2-Fluorobiphenyl	52		15-120
2,4,6-Tribromophenol	38		10-120
4-Terphenyl-d14	67		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 12/19/21 18:23
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 12/14/21 15:04

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 09 Batch: WG1583217-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	29		21-120
Phenol-d6	35		10-120
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	63		15-120
2,4,6-Tribromophenol	34		10-120
4-Terphenyl-d14	73		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/20/21 23:53
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 12/19/21 11:09

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-08 Batch: WG1585193-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.13	0.023
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	86		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167657

Report Date: 12/28/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 09 Batch: WG1583217-2 WG1583217-3								
Naphthalene	53		68		40-140	25		40
Fluorene	64		73		40-140	13		40
Phenanthrene	65		68		40-140	5		40
Anthracene	65		68		40-140	5		40
Pyrene	71		75		26-127	5		40
Benzo(a)anthracene	74		78		40-140	5		40
Chrysene	69		68		40-140	1		40
Benzo(b)fluoranthene	71		81		40-140	13		40
Benzo(a)pyrene	73		76		40-140	4		40
Indeno(1,2,3-cd)pyrene	75		82		40-140	9		40
Benzo(ghi)perylene	74		79		40-140	7		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	40		49		21-120
Phenol-d6	38		46		10-120
Nitrobenzene-d5	61		72		23-120
2-Fluorobiphenyl	55		67		15-120
2,4,6-Tribromophenol	58		60		10-120
4-Terphenyl-d14	73		76		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167657

Report Date: 12/28/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 Batch: WG1585193-2 WG1585193-3								
Naphthalene	60		66		40-140	10		50
Fluorene	64		71		40-140	10		50
Phenanthrene	64		69		40-140	8		50
Anthracene	64		69		40-140	8		50
Pyrene	65		72		35-142	10		50
Benzo(a)anthracene	62		70		40-140	12		50
Chrysene	64		70		40-140	9		50
Benzo(b)fluoranthene	66		74		40-140	11		50
Benzo(a)pyrene	62		69		40-140	11		50
Indeno(1,2,3-cd)pyrene	65		75		40-140	14		50
Benzo(ghi)perylene	64		72		40-140	12		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	62		72		23-120
2-Fluorobiphenyl	61		69		30-120
4-Terphenyl-d14	68		76		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-01
Client ID: PB-191-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 09:20
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	110		mg/kg	2.34	0.126	1	12/21/21 07:10	12/23/21 18:20	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-02
Client ID: PB-191-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 09:40
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	46.8		mg/kg	2.36	0.126	1	12/21/21 07:10	12/23/21 18:25	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-03
Client ID: PB-191-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 09:55
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 74%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	295		mg/kg	2.62	0.140	1	12/21/21 07:10	12/23/21 18:38	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-04
Client ID: PB-191-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 10:20
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	12.8		mg/kg	10.5	0.565	5	12/21/21 07:10	12/27/21 14:02	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-05
Client ID: PB-191-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 10:30
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	26.5		mg/kg	2.38	0.128	1	12/21/21 07:10	12/23/21 18:47	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-06
Client ID: PB-191-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 10:45
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	176		mg/kg	4.59	0.246	2	12/21/21 07:10	12/27/21 10:13	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-07
Client ID: PB-191-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 10:55
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	84.5		mg/kg	2.30	0.123	1	12/21/21 07:10	12/23/21 18:56	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-08
Client ID: DUP-25
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 00:00
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	218		mg/kg	4.72	0.253	2	12/21/21 07:10	12/27/21 10:17	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-09
Client ID: FB-211209
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 11:00
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	12/19/21 05:13	12/22/21 01:07	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 09 Batch: WG1585121-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	12/19/21 05:13	12/22/21 01:02	1,6020B	SV

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-08 Batch: WG1585681-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	12/21/21 07:10	12/23/21 16:49	1,6010D	EW

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167657

Report Date: 12/28/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 09 Batch: WG1585121-2								
Lead, Total	100		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-08 Batch: WG1585681-2 SRM Lot Number: D113-540								
Lead, Total	84		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167657
Report Date: 12/28/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 09 QC Batch ID: WG1585121-3 WG1585121-4 QC Sample: L2169319-04 Client ID: MS Sample												
Lead, Total	ND	530	516.2	97		495.5	93		75-125	4		20
Total Metals - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG1585681-3 QC Sample: L2165811-11 Client ID: MS Sample												
Lead, Total	62.2	51.6	77.5	**30**	Q	-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167657

Report Date: 12/28/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG1585681-4 QC Sample: L2165811-11 Client ID: DUP Sample						
Lead, Total	62.2	41.2	mg/kg	**41**	Q	20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Serial Dilution Analysis
Batch Quality Control

Lab Number: L2167657
Report Date: 12/28/21

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG1585681-6 QC Sample: L2165811-11 Client ID: DUP Sample						
Lead, Total	62.2	82.9	mg/kg	**33**	Q	20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-01
Client ID: PB-191-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/09/21 09:20
Date Received: 12/09/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	12/10/21 13:04	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-02
Client ID: PB-191-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/09/21 09:40
Date Received: 12/09/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.6		%	0.100	NA	1	-	12/10/21 13:04	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-03
Client ID: PB-191-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/09/21 09:55
Date Received: 12/09/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	73.9		%	0.100	NA	1	-	12/10/21 13:04	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-04
Client ID: PB-191-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/09/21 10:20
Date Received: 12/09/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.1		%	0.100	NA	1	-	12/10/21 13:04	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-05
Client ID: PB-191-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/09/21 10:30
Date Received: 12/09/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.5		%	0.100	NA	1	-	12/10/21 13:04	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-06
Client ID: PB-191-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/09/21 10:45
Date Received: 12/09/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.7		%	0.100	NA	1	-	12/10/21 13:04	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-07
Client ID: PB-191-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/09/21 10:55
Date Received: 12/09/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.8		%	0.100	NA	1	-	12/10/21 13:04	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-08
Client ID: DUP-25
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/09/21 00:00
Date Received: 12/09/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.6		%	0.100	NA	1	-	12/10/21 13:04	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167657

Report Date: 12/28/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-08 QC Batch ID: WG1581718-1 QC Sample: L2167657-01 Client ID: PB-191-01-SS01						
Solids, Total	84.0	83.9	%	0		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167657
Report Date: 12/28/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167657-01A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2167657-01B	Vial water preserved	B	NA		3.7	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-01C	Vial water preserved	B	NA		3.7	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-01D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2167657-01E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2167657-01F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2167657-02A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2167657-02B	Vial water preserved	B	NA		3.7	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-02C	Vial water preserved	B	NA		3.7	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-02D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2167657-02E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2167657-02F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2167657-03A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2167657-03B	Vial water preserved	B	NA		3.7	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-03C	Vial water preserved	B	NA		3.7	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-03D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2167657-03E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2167657-03F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2167657-04A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2167657-04B	Vial water preserved	B	NA		3.7	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-04C	Vial water preserved	B	NA		3.7	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-04D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167657
Report Date: 12/28/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167657-04E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2167657-04F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2167657-05A	Vial MeOH preserved	A	NA		3.4	Y	Absent		PA-8260HLW(14)
L2167657-05B	Vial water preserved	A	NA		3.4	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-05C	Vial water preserved	A	NA		3.4	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-05D	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		TS(7)
L2167657-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.4	Y	Absent		PB-TI(180)
L2167657-05F	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		PA-PAH(14)
L2167657-06A	Vial MeOH preserved	A	NA		3.4	Y	Absent		PA-8260HLW(14)
L2167657-06B	Vial water preserved	A	NA		3.4	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-06C	Vial water preserved	A	NA		3.4	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-06D	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		TS(7)
L2167657-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.4	Y	Absent		PB-TI(180)
L2167657-06F	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		PA-PAH(14)
L2167657-07A	Vial MeOH preserved	A	NA		3.4	Y	Absent		PA-8260HLW(14)
L2167657-07B	Vial water preserved	A	NA		3.4	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-07C	Vial water preserved	A	NA		3.4	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-07D	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		TS(7)
L2167657-07E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.4	Y	Absent		PB-TI(180)
L2167657-07F	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		PA-PAH(14)
L2167657-08A	Vial MeOH preserved	A	NA		3.4	Y	Absent		PA-8260HLW(14)
L2167657-08B	Vial water preserved	A	NA		3.4	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-08C	Vial water preserved	A	NA		3.4	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-08D	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		TS(7)
L2167657-08E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.4	Y	Absent		PB-TI(180)
L2167657-08F	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		PA-PAH(14)
L2167657-09A	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2167657-09B	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167657
Report Date: 12/28/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167657-09C	Vial HCl preserved	A	NA		3.4	Y	Absent		8011(14)
L2167657-09D	Plastic 250ml HNO3 preserved	A	<2	<2	3.4	Y	Absent		PB-6020T-PPB(180)
L2167657-09E	Amber 250ml unpreserved	A	7	7	3.4	Y	Absent		PA-8270SIM-LVI(7)
L2167657-09F	Amber 250ml unpreserved	A	7	7	3.4	Y	Absent		PA-8270SIM-LVI(7)
L2167657-10A	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2167657-10B	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2167657-10C	Vial Na2S2O3 preserved	A	NA		3.4	Y	Absent		8011(14)
L2167657-10D	Vial Na2S2O3 preserved	A	NA		3.4	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167657
Project Number:	200.00135.005.03	**Report Date:**	12/28/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167657
Project Number:	200.00135.005.03	**Report Date:**	12/28/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167657
Project Number:	200.00135.005.03	**Report Date:**	12/28/21

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167657
Project Number:	200.00135.005.03	**Report Date:**	12/28/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 12/10/21

ALPHA Job #: L2167657

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193

Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.005.03

Project Manager: William Schmidt

ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client Info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist (1-5)		Sample Specific Comments	TOTAL # BOTTLES
67657-01	PB-191-01-5501	12/9	0920	S	JS	☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐		6
02	PB-191-02-5501		0940	S		☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐		
03	PB-191-04-5501		0955	S		☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐		
04	PB-191-05-5501		1020	S		☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐		
05	PB-191-06-5501		1030	S		☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐		
06	PB-191-07-5501		1045	S		☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐		
07	PB-191-08-5501		1055	S		☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐		
08	DUP-25		-	S		☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐		
09	FB-211204		1100	W		☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐		7
10	TB-211204	↓	-		↓	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐		4
	Container Type					G	G	G	-	-	-	-	-	-	-	-	-		
	Preservative					F	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	12/9 1130		12/9/21 11:30
	12/9/21 1810		12/9/21 1810
	12/9 2030	I hereby AAL	12/9/21 2210
	12/10/21	I hereby AAL 12/10/21 0230	
I hereby AAL 12/10/21 0715			12/10/21 04:15

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-07(HW) (rev. 8-MAR-12)

PADEP Short List Analytical List:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6. and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

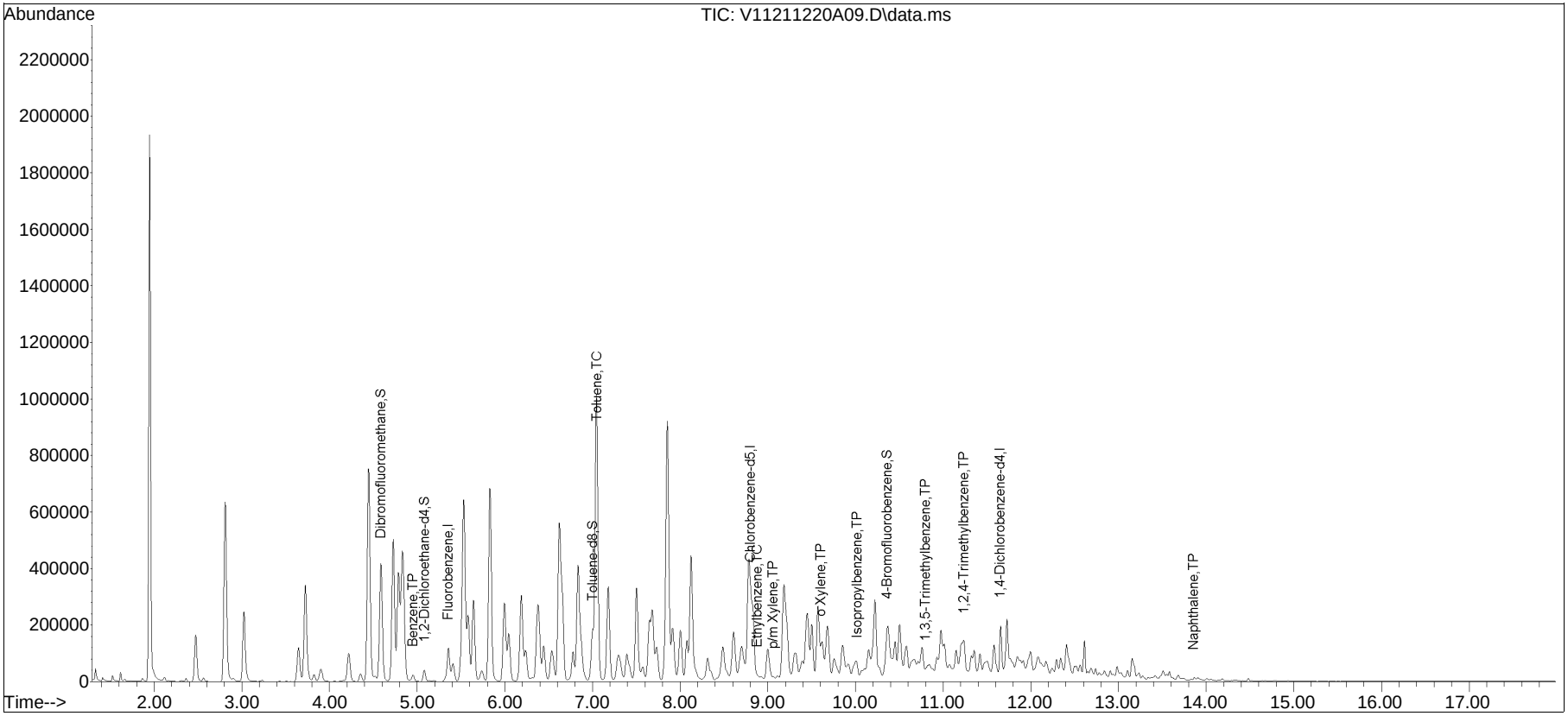
6. Waste Oil – benzene, toluene, ethyl benzene, cumene, naphthalene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, lead

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\211220A\
Data File : V11211220A09.D
Acq On : 20 Dec 2021 11:28 am
Operator : VOA111:MV
Sample : L2167657-02,31,2.54,5,,C
Misc : WG1586011,ICAL18566
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 21 08:39:50 2021
Quant Method : I:\VOLATILES\VOA111\2021\211220A\V111_211214A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Dec 14 12:27:59 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list20A\V11211220A01.D•

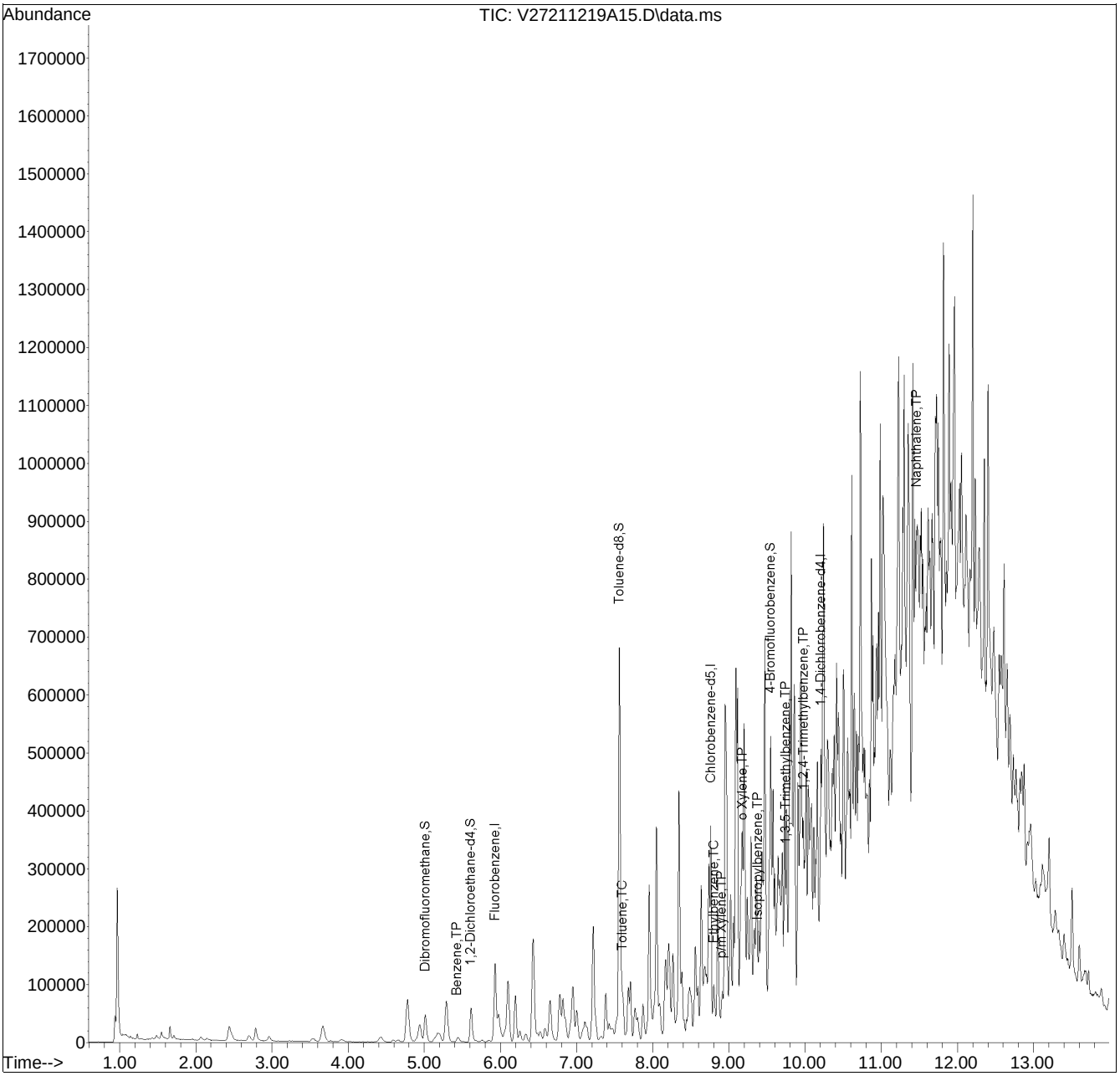


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA127\2021\211219A\
Data File : V27211219A15.D
Acq On : 19 Dec 2021 07:07 pm
Operator : VOA127:JC
Sample : L2167657-03,31,5.23,5,,B
Misc : WG1586116,ICAL18439
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Dec 20 08:26:11 2021
Quant Method : I:\VOLATILES\VOA127\2021\211219A\V127_211103N_8260D.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Nov 04 16:46:12 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list19A\V27211219A01.D•

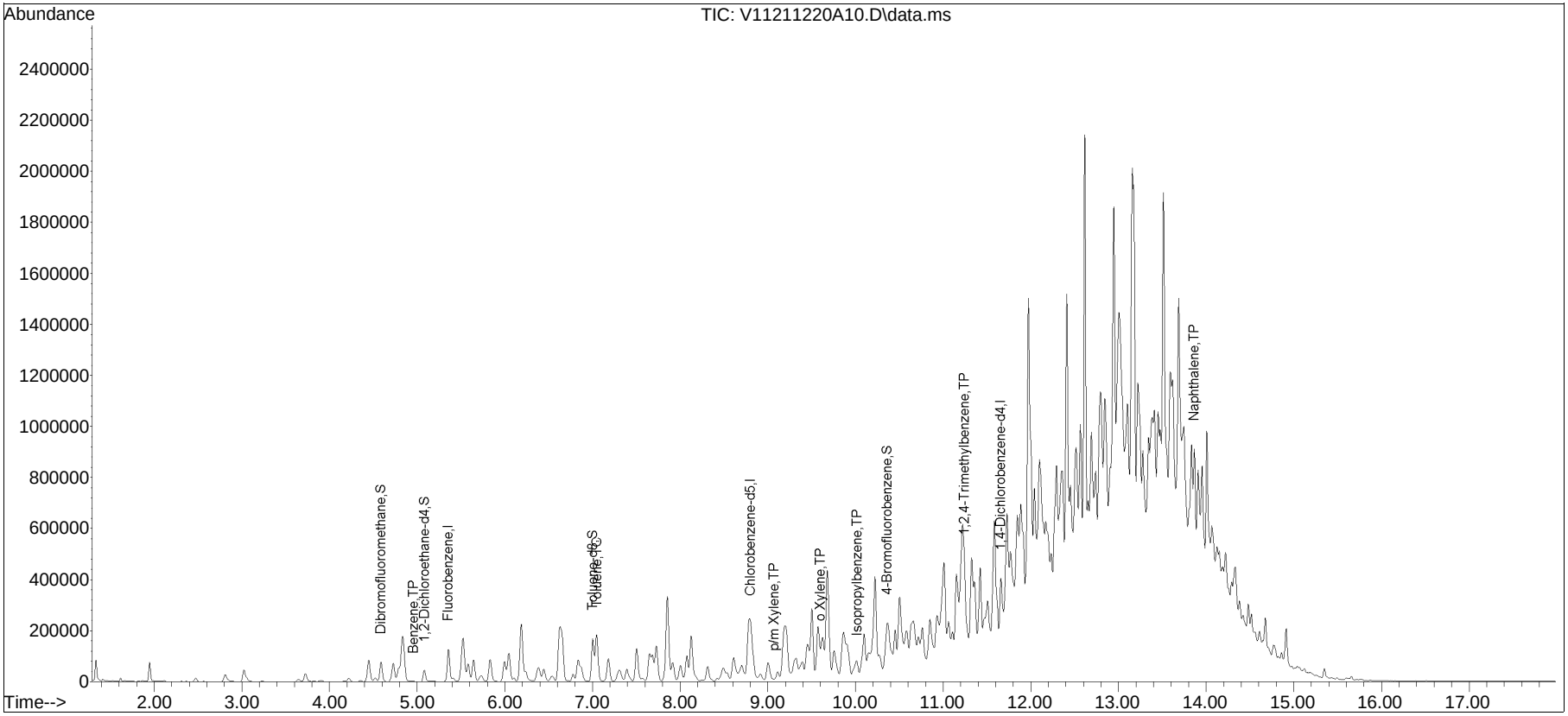


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\211220A\
Data File : V11211220A10.D
Acq On : 20 Dec 2021 11:52 am
Operator : VOA111:MV
Sample : L2167657-05,31,5.29,5,,C
Misc : WG1586011,ICAL18566
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Dec 21 08:40:08 2021
Quant Method : I:\VOLATILES\VOA111\2021\211220A\V111_211214A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Dec 14 12:27:59 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list20A\V11211220A01.D•

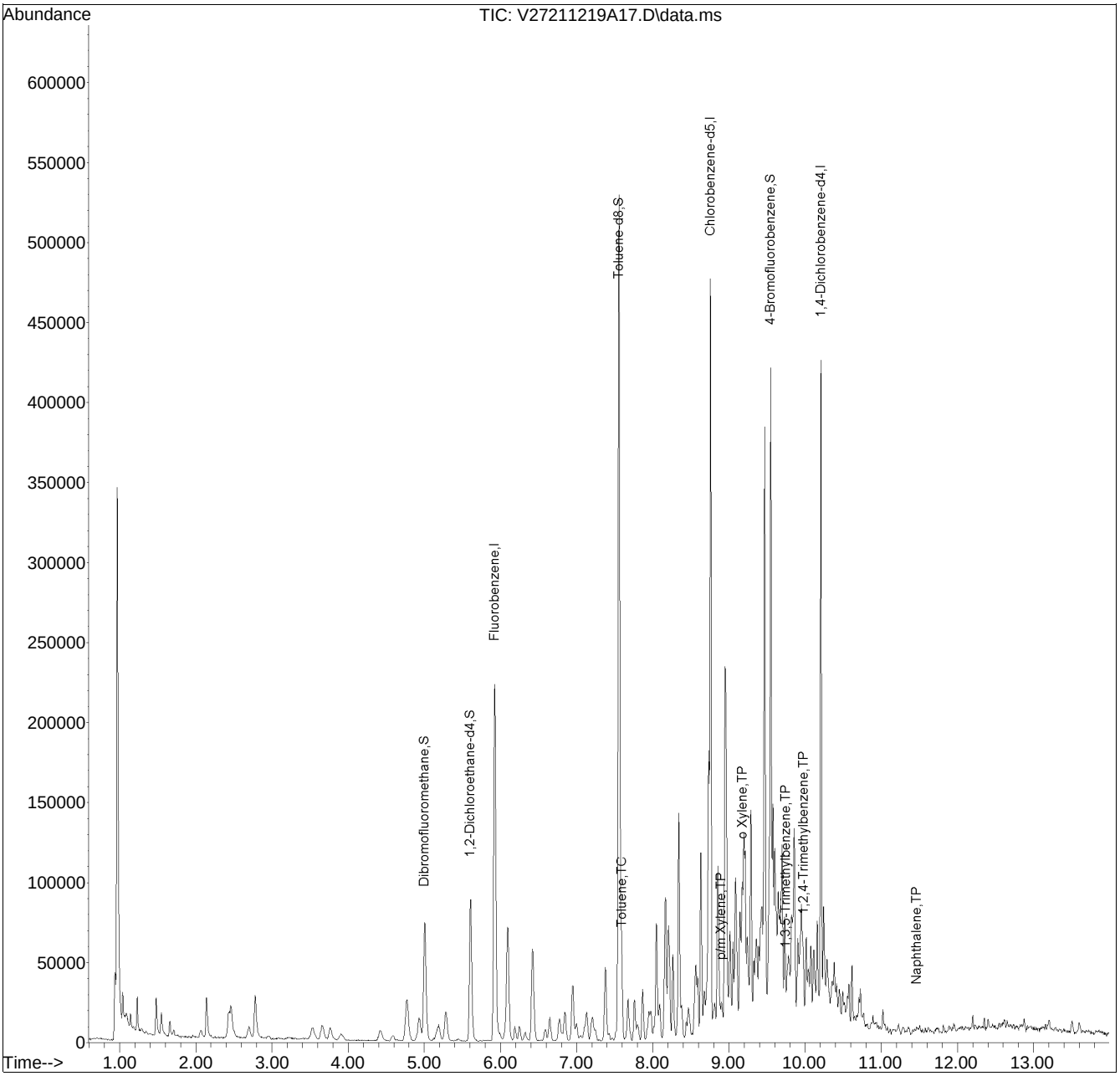


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA127\2021\211219A\
Data File : V27211219A17.D
Acq On : 20 Dec 2021 01:22 am
Operator : VOA127:JC
Sample : L2167657-06,31,2.84,5,,B
Misc : WG1586116,ICAL18439
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Dec 20 08:26:26 2021
Quant Method : I:\VOLATILES\VOA127\2021\211219A\V127_211103N_8260D.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Nov 04 16:46:12 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list19A\V27211219A01.D•

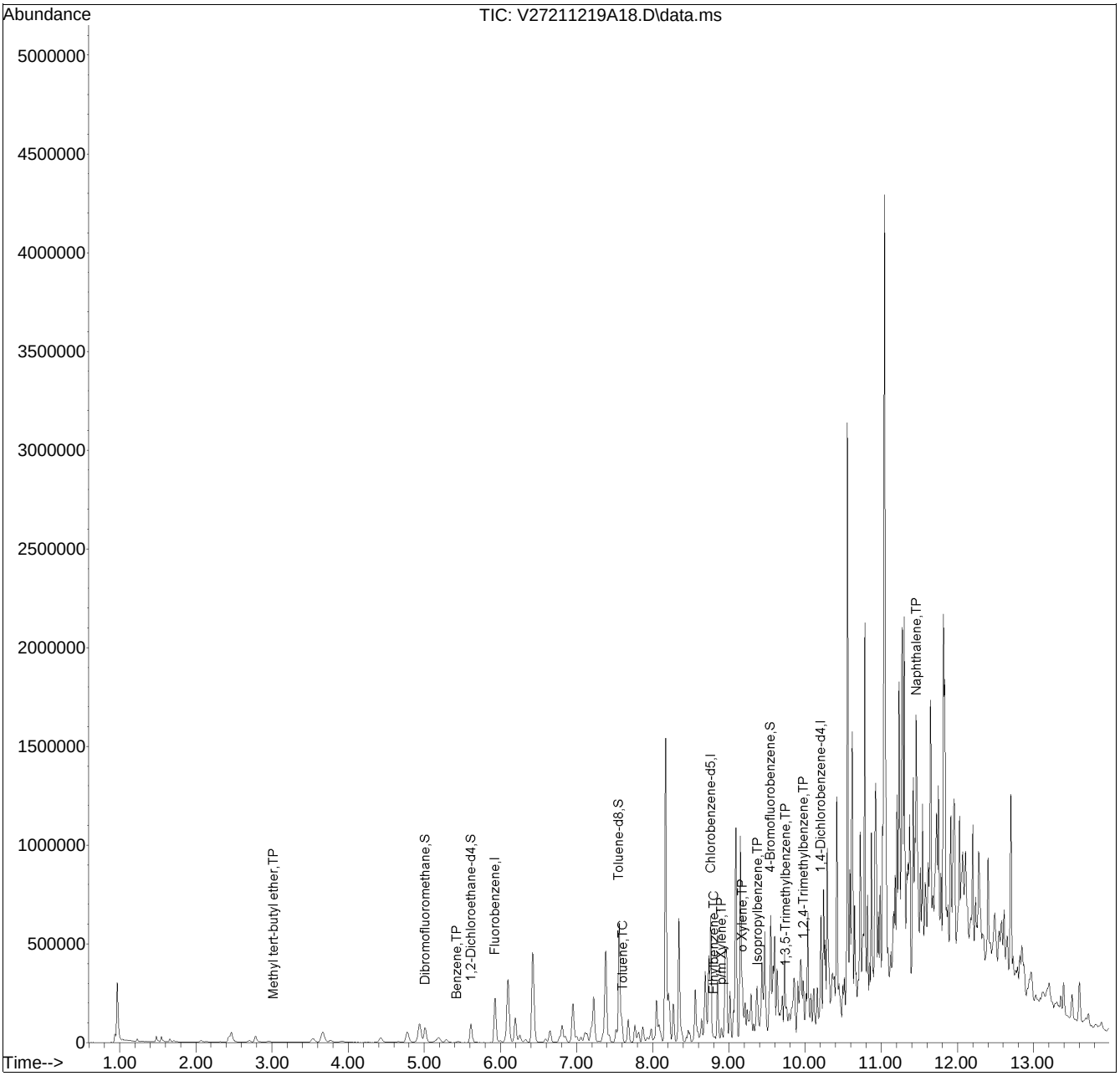


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA127\2021\211219A\
Data File : V27211219A18.D
Acq On : 20 Dec 2021 01:42 am
Operator : VOA127:JC
Sample : L2167657-07,31,5.26,5,,B
Misc : WG1586116,ICAL18439
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Dec 20 08:26:43 2021
Quant Method : I:\VOLATILES\VOA127\2021\211219A\V127_211103N_8260D.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Nov 04 16:46:12 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list19A\V27211219A01.D•



ANALYTICAL REPORT

Lab Number:	L2236582
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/15/22

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236582
Report Date: 07/15/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2236582-01	PB-847-01-SS01	SOIL	PHILADELPHIA, PA	07/08/22 09:00	07/08/22
L2236582-02	PB-847-02-SS01	SOIL	PHILADELPHIA, PA	07/08/22 09:10	07/08/22
L2236582-03	PB-847-03-SS01	SOIL	PHILADELPHIA, PA	07/08/22 09:20	07/08/22
L2236582-04	PB-847-04-SS01	SOIL	PHILADELPHIA, PA	07/08/22 09:30	07/08/22
L2236582-05	PB-847-05-SS01	SOIL	PHILADELPHIA, PA	07/08/22 09:40	07/08/22
L2236582-06	PB-847-06-SS01	SOIL	PHILADELPHIA, PA	07/08/22 09:50	07/08/22
L2236582-07	PB-847-07-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:00	07/08/22
L2236582-08	PB-847-08-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:10	07/08/22
L2236582-09	PB-847-09-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:20	07/08/22
L2236582-10	PB-847-10-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:30	07/08/22
L2236582-11	PB-847-11-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:40	07/08/22
L2236582-12	PB-847-12-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:50	07/08/22
L2236582-13	PB-847-13-SS01	SOIL	PHILADELPHIA, PA	07/08/22 11:00	07/08/22
L2236582-14	PB-847-14-SS01	SOIL	PHILADELPHIA, PA	07/08/22 11:10	07/08/22
L2236582-15	PB-847-15-SS01	SOIL	PHILADELPHIA, PA	07/08/22 11:20	07/08/22
L2236582-16	PB-847-16-SS01	SOIL	PHILADELPHIA, PA	07/08/22 11:30	07/08/22
L2236582-17	PB-847-17-SS01	SOIL	PHILADELPHIA, PA	07/08/22 11:40	07/08/22
L2236582-18	FB-070822-1	WATER	PHILADELPHIA, PA	07/08/22 13:00	07/08/22
L2236582-19	FB-070822-2	WATER	PHILADELPHIA, PA	07/08/22 13:05	07/08/22
L2236582-20	DUP-37	SOIL	PHILADELPHIA, PA	07/08/22 00:00	07/08/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236582
Project Number:	200.00135.006	**Report Date:**	07/15/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236582
Project Number:	200.00135.006	**Report Date:**	07/15/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2236582-12: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (268%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236582-13D, -14D, and -15D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

L2236582-13D: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (171%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236582-14D: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (150%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236582-15D: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (159%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236582-17: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (202%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Semivolatile Organics

L2236582-15D: The sample has elevated detection limits due to the dilution required by the sample matrix.

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Case Narrative (continued)

Total Metals

L2236582-07, -10, -11, -12, -14, -15, and -17: The sample has an elevated detection limit for lead due to the dilution required by matrix interferences encountered during analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 07/15/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-01
Client ID: PB-847-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 13:18
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00085	0.00022	1
Toluene	ND		mg/kg	0.00085	0.00046	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	ND		mg/kg	0.00085	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00048	1
o-Xylene	ND		mg/kg	0.00085	0.00025	1
Xylenes, Total	ND		mg/kg	0.00085	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00085	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-02
Client ID: PB-847-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 13:48
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00019	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00093	0.00024	1
Toluene	ND		mg/kg	0.00093	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00093	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00052	1
o-Xylene	ND		mg/kg	0.00093	0.00027	1
Xylenes, Total	ND		mg/kg	0.00093	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00093	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-03
Client ID: PB-847-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 14:17
Analyst: JC
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00089	0.00023	1
Toluene	ND		mg/kg	0.00089	0.00048	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00089	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00089	0.00026	1
Xylenes, Total	ND		mg/kg	0.00089	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00089	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-04
Client ID: PB-847-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 14:47
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00044	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00088	0.00022	1
Toluene	ND		mg/kg	0.00088	0.00048	1
1,2-Dibromoethane	ND		mg/kg	0.00044	0.00026	1
Ethylbenzene	ND		mg/kg	0.00088	0.00012	1
p/m-Xylene	ND		mg/kg	0.0018	0.00049	1
o-Xylene	ND		mg/kg	0.00088	0.00026	1
Xylenes, Total	ND		mg/kg	0.00088	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00088	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-05
Client ID: PB-847-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 15:17
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00087	0.00022	1
Toluene	ND		mg/kg	0.00087	0.00047	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	ND		mg/kg	0.00087	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00048	1
o-Xylene	ND		mg/kg	0.00087	0.00025	1
Xylenes, Total	ND		mg/kg	0.00087	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00087	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-06
Client ID: PB-847-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 15:46
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00086	0.00022	1
Toluene	ND		mg/kg	0.00086	0.00046	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	ND		mg/kg	0.00086	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00048	1
o-Xylene	ND		mg/kg	0.00086	0.00025	1
Xylenes, Total	ND		mg/kg	0.00086	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00086	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-07
Client ID: PB-847-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 16:15
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	0.00029	J	mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0021	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-08
Client ID: PB-847-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 16:45
Analyst: JC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	ND		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00090	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00090	0.00026	1
Xylenes, Total	ND		mg/kg	0.00090	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-09
Client ID: PB-847-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 17:14
Analyst: JC
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	0.00024	J	mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00063	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00065	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-10
Client ID: PB-847-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 17:43
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00098	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00029	1
Xylenes, Total	ND		mg/kg	0.00098	0.00029	1
Isopropylbenzene	ND		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-11
Client ID: PB-847-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 18:11
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0035		mg/kg	0.0020	0.00020	1
Benzene	0.00047	J	mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00098	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00028	1
Xylenes, Total	ND		mg/kg	0.00098	0.00028	1
Isopropylbenzene	0.00012	J	mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-12
Client ID: PB-847-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 00:46
Analyst: MKS
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00087	0.00022	1
Toluene	ND		mg/kg	0.00087	0.00047	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	0.0028		mg/kg	0.00087	0.00012	1
p/m-Xylene	0.00065	J	mg/kg	0.0017	0.00048	1
o-Xylene	0.00025	J	mg/kg	0.00087	0.00025	1
Xylenes, Total	0.00090	J	mg/kg	0.00087	0.00025	1
Isopropylbenzene	0.013		mg/kg	0.00087	0.00009	1
1,3,5-Trimethylbenzene	0.054		mg/kg	0.0017	0.00017	1
1,2,4-Trimethylbenzene	0.020		mg/kg	0.0017	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	120		70-130
4-Bromofluorobenzene	**268**	Q	70-130
Dibromofluoromethane	91		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-13 D
Client ID: PB-847-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 01:06
Analyst: MKS
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.43	0.043	4
Benzene	0.051	J	mg/kg	0.11	0.036	4
1,2-Dichloroethane	ND		mg/kg	0.21	0.055	4
Toluene	ND		mg/kg	0.21	0.12	4
1,2-Dibromoethane	ND		mg/kg	0.11	0.063	4
Ethylbenzene	0.20	J	mg/kg	0.21	0.030	4
p/m-Xylene	0.15	J	mg/kg	0.43	0.12	4
o-Xylene	0.080	J	mg/kg	0.21	0.062	4
Xylenes, Total	0.23	J	mg/kg	0.21	0.062	4
Isopropylbenzene	0.94		mg/kg	0.21	0.023	4
1,3,5-Trimethylbenzene	1.4		mg/kg	0.43	0.041	4
1,2,4-Trimethylbenzene	2.2		mg/kg	0.43	0.072	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	**171**	Q	70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-14 D
Client ID: PB-847-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 19:37
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.50	0.051	4
Benzene	ND		mg/kg	0.12	0.042	4
1,2-Dichloroethane	ND		mg/kg	0.25	0.065	4
Toluene	ND		mg/kg	0.25	0.14	4
1,2-Dibromoethane	ND		mg/kg	0.12	0.074	4
Ethylbenzene	ND		mg/kg	0.25	0.036	4
p/m-Xylene	ND		mg/kg	0.50	0.14	4
o-Xylene	ND		mg/kg	0.25	0.073	4
Xylenes, Total	ND		mg/kg	0.25	0.073	4
Isopropylbenzene	1.3		mg/kg	0.25	0.027	4
1,3,5-Trimethylbenzene	ND		mg/kg	0.50	0.049	4
1,2,4-Trimethylbenzene	ND		mg/kg	0.50	0.084	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	130		70-130
4-Bromofluorobenzene	**150**	Q	70-130
Dibromofluoromethane	89		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-15 D
Client ID: PB-847-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 19:09
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.46	0.047	4
Benzene	0.063	J	mg/kg	0.12	0.038	4
1,2-Dichloroethane	ND		mg/kg	0.23	0.060	4
Toluene	ND		mg/kg	0.23	0.12	4
1,2-Dibromoethane	ND		mg/kg	0.12	0.068	4
Ethylbenzene	0.24		mg/kg	0.23	0.033	4
p/m-Xylene	0.18	J	mg/kg	0.46	0.13	4
o-Xylene	0.090	J	mg/kg	0.23	0.067	4
Xylenes, Total	0.27	J	mg/kg	0.23	0.067	4
Isopropylbenzene	1.2		mg/kg	0.23	0.025	4
1,3,5-Trimethylbenzene	1.8		mg/kg	0.46	0.045	4
1,2,4-Trimethylbenzene	2.8		mg/kg	0.46	0.077	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	**159**	Q	70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-16
Client ID: PB-847-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 20:34
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00047	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00094	0.00024	1
Toluene	ND		mg/kg	0.00094	0.00051	1
1,2-Dibromoethane	ND		mg/kg	0.00047	0.00028	1
Ethylbenzene	ND		mg/kg	0.00094	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00053	1
o-Xylene	ND		mg/kg	0.00094	0.00027	1
Xylenes, Total	ND		mg/kg	0.00094	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00094	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-17
Client ID: PB-847-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 21:03
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	0.0042		mg/kg	0.00053	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00027	1
Toluene	0.00073	J	mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	0.018		mg/kg	0.0011	0.00015	1
p/m-Xylene	0.015		mg/kg	0.0021	0.00059	1
o-Xylene	0.0017		mg/kg	0.0011	0.00031	1
Xylenes, Total	0.017		mg/kg	0.0011	0.00031	1
Isopropylbenzene	0.027		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.0088		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	0.11		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	125		70-130
4-Bromofluorobenzene	**202**	Q	70-130
Dibromofluoromethane	89		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-18
Client ID: FB-070822-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 16:12
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-18
Client ID: FB-070822-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/13/22 20:54
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	124		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	125		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-19
Client ID: FB-070822-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:05
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 16:19
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-19
Client ID: FB-070822-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:05
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/13/22 20:28
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	123		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	126		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-20
Client ID: DUP-37
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 21:31
Analyst: JC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00044	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00089	0.00023	1
Toluene	ND		mg/kg	0.00089	0.00048	1
1,2-Dibromoethane	ND		mg/kg	0.00044	0.00026	1
Ethylbenzene	ND		mg/kg	0.00089	0.00012	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00089	0.00026	1
Xylenes, Total	ND		mg/kg	0.00089	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00089	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/13/22 14:45
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 18-19 Batch: WG1662273-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/13/22 12:48
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-11,16-17,20 Batch: WG1662895-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/13/22 12:48
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 14-15 Batch: WG1662896-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/14/22 18:32
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 12 Batch: WG1663237-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/14/22 18:32
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 13 Batch: WG1663238-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/13/22 17:26
Analyst: TMS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 18-19 Batch: WG1663309-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	119		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236582

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 18-19 Batch: WG1662273-2								
1,2-Dibromoethane	110		-		80-120	-		20	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236582
Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-11,16-17,20 Batch: WG1662895-3 WG1662895-4								
Methyl tert butyl ether	120		122		66-130	2		30
Benzene	111		111		70-130	0		30
1,2-Dichloroethane	102		102		70-130	0		30
Toluene	112		113		70-130	1		30
1,2-Dibromoethane	111		114		70-130	3		30
Ethylbenzene	111		111		70-130	0		30
p/m-Xylene	111		112		70-130	1		30
o-Xylene	109		111		70-130	2		30
Isopropylbenzene	115		117		70-130	2		30
1,3,5-Trimethylbenzene	112		111		70-130	1		30
1,2,4-Trimethylbenzene	111		112		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		96		70-130
Toluene-d8	103		104		70-130
4-Bromofluorobenzene	107		108		70-130
Dibromofluoromethane	90		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236582
Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 14-15 Batch: WG1662896-3 WG1662896-4								
Methyl tert butyl ether	120		122		66-130	2		30
Benzene	111		111		70-130	0		30
1,2-Dichloroethane	102		102		70-130	0		30
Toluene	112		113		70-130	1		30
1,2-Dibromoethane	111		114		70-130	3		30
Ethylbenzene	111		111		70-130	0		30
p/m-Xylene	111		112		70-130	1		30
o-Xylene	109		111		70-130	2		30
Isopropylbenzene	115		117		70-130	2		30
1,3,5-Trimethylbenzene	112		111		70-130	1		30
1,2,4-Trimethylbenzene	111		112		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		96		70-130
Toluene-d8	103		104		70-130
4-Bromofluorobenzene	107		108		70-130
Dibromofluoromethane	90		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236582
Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 12 Batch: WG1663237-3 WG1663237-4								
Methyl tert butyl ether	104		101		66-130	3		30
Benzene	99		96		70-130	3		30
1,2-Dichloroethane	101		98		70-130	3		30
Toluene	90		87		70-130	3		30
1,2-Dibromoethane	97		96		70-130	1		30
Ethylbenzene	97		94		70-130	3		30
p/m-Xylene	96		94		70-130	2		30
o-Xylene	98		96		70-130	2		30
Isopropylbenzene	99		96		70-130	3		30
1,3,5-Trimethylbenzene	98		95		70-130	3		30
1,2,4-Trimethylbenzene	97		93		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	105		104		70-130
Toluene-d8	97		99		70-130
4-Bromofluorobenzene	99		97		70-130
Dibromofluoromethane	100		104		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236582

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 13 Batch: WG1663238-3 WG1663238-4								
Methyl tert butyl ether	104		101		66-130	3		30
Benzene	99		96		70-130	3		30
1,2-Dichloroethane	101		98		70-130	3		30
Toluene	90		87		70-130	3		30
1,2-Dibromoethane	97		96		70-130	1		30
Ethylbenzene	97		94		70-130	3		30
p/m-Xylene	96		94		70-130	2		30
o-Xylene	98		96		70-130	2		30
Isopropylbenzene	99		96		70-130	3		30
1,3,5-Trimethylbenzene	98		95		70-130	3		30
1,2,4-Trimethylbenzene	97		93		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	105		104		70-130
Toluene-d8	97		99		70-130
4-Bromofluorobenzene	99		97		70-130
Dibromofluoromethane	100		104		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236582

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 18-19 Batch: WG1663309-3 WG1663309-4								
Methyl tert butyl ether	95		97		63-130	2		20
Benzene	98		100		70-130	2		20
1,2-Dichloroethane	100		100		70-130	0		20
Toluene	95		96		70-130	1		20
Ethylbenzene	94		96		70-130	2		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
Isopropylbenzene	88		92		70-130	4		20
1,3,5-Trimethylbenzene	91		95		64-130	4		20
1,2,4-Trimethylbenzene	90		94		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		105		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	102		94		70-130
Dibromofluoromethane	102		104		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-01
Client ID: PB-847-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 13:00
Analyst: JG
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	116		23-120
2-Fluorobiphenyl	54		30-120
4-Terphenyl-d14	65		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-02
Client ID: PB-847-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 13:24
Analyst: JG
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**133**	Q	23-120
2-Fluorobiphenyl	64		30-120
4-Terphenyl-d14	70		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-03
Client ID: PB-847-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 13:47
Analyst: JG
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	114		23-120
2-Fluorobiphenyl	58		30-120
4-Terphenyl-d14	66		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-04
Client ID: PB-847-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 14:11
Analyst: JG
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.022	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**141**	Q	23-120
2-Fluorobiphenyl	65		30-120
4-Terphenyl-d14	73		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-05
Client ID: PB-847-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 14:58
Analyst: JG
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.022	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	104		23-120
2-Fluorobiphenyl	50		30-120
4-Terphenyl-d14	54		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-06
Client ID: PB-847-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 15:21
Analyst: JG
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	114		23-120
2-Fluorobiphenyl	57		30-120
4-Terphenyl-d14	69		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-07
Client ID: PB-847-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 15:45
Analyst: JG
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	115		23-120
2-Fluorobiphenyl	53		30-120
4-Terphenyl-d14	60		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-08
Client ID: PB-847-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 16:08
Analyst: JG
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	114		23-120
2-Fluorobiphenyl	53		30-120
4-Terphenyl-d14	57		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-09
Client ID: PB-847-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 16:32
Analyst: JG
Percent Solids: 77%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.21	0.026	1
Fluorene	ND		mg/kg	0.21	0.021	1
Phenanthrene	ND		mg/kg	0.13	0.026	1
Anthracene	ND		mg/kg	0.13	0.042	1
Pyrene	ND		mg/kg	0.13	0.021	1
Benzo(a)anthracene	ND		mg/kg	0.13	0.024	1
Chrysene	ND		mg/kg	0.13	0.022	1
Benzo(b)fluoranthene	ND		mg/kg	0.13	0.036	1
Benzo(a)pyrene	ND		mg/kg	0.17	0.052	1
Benzo(ghi)perylene	ND		mg/kg	0.17	0.025	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**134**	Q	23-120
2-Fluorobiphenyl	63		30-120
4-Terphenyl-d14	71		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-10
Client ID: PB-847-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 16:55
Analyst: JG
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	107		23-120
2-Fluorobiphenyl	54		30-120
4-Terphenyl-d14	56		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-11
Client ID: PB-847-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 17:19
Analyst: JG
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.037	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**163**	Q	23-120
2-Fluorobiphenyl	81		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-12
Client ID: PB-847-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 17:42
Analyst: JG
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	118		23-120
2-Fluorobiphenyl	58		30-120
4-Terphenyl-d14	64		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-13
Client ID: PB-847-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 18:06
Analyst: JG
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:48

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.13	J	mg/kg	0.19	0.023	1
Fluorene	0.12	J	mg/kg	0.19	0.019	1
Phenanthrene	0.29		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.037	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**130**	Q	23-120
2-Fluorobiphenyl	61		30-120
4-Terphenyl-d14	62		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-14
Client ID: PB-847-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 18:29
Analyst: JG
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:48

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.043	J	mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	97		23-120
2-Fluorobiphenyl	51		30-120
4-Terphenyl-d14	55		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-15 D
Client ID: PB-847-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 10:21
Analyst: JG
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:48

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	7.0		mg/kg	1.9	0.23	10
Fluorene	5.3		mg/kg	1.9	0.18	10
Phenanthrene	12.		mg/kg	1.1	0.23	10
Anthracene	1.7		mg/kg	1.1	0.36	10
Pyrene	0.50	J	mg/kg	1.1	0.19	10
Benzo(a)anthracene	ND		mg/kg	1.1	0.21	10
Chrysene	ND		mg/kg	1.1	0.20	10
Benzo(b)fluoranthene	ND		mg/kg	1.1	0.32	10
Benzo(a)pyrene	ND		mg/kg	1.5	0.46	10
Benzo(ghi)perylene	ND		mg/kg	1.5	0.22	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**166**	Q	23-120
2-Fluorobiphenyl	95		30-120
4-Terphenyl-d14	96		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-16
Client ID: PB-847-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 19:16
Analyst: JG
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:48

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	107		23-120
2-Fluorobiphenyl	53		30-120
4-Terphenyl-d14	58		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-17
Client ID: PB-847-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 19:40
Analyst: JG
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:48

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	98		23-120
2-Fluorobiphenyl	51		30-120
4-Terphenyl-d14	61		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-18
Client ID: FB-070822-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/10/22 16:03
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 07/10/22 07:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	38		23-120
2-Fluorobiphenyl	38		15-120
4-Terphenyl-d14	**40**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-19
Client ID: FB-070822-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:05
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/10/22 16:19
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 07/10/22 07:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	0.02	J	ug/l	0.10	0.01	1
Phenanthrene	0.04	J	ug/l	0.05	0.02	1
Anthracene	0.01	J	ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	37		23-120
2-Fluorobiphenyl	38		15-120
4-Terphenyl-d14	**40**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-20
Client ID: DUP-37
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 20:03
Analyst: JG
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:48

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**121**	Q	23-120
2-Fluorobiphenyl	61		30-120
4-Terphenyl-d14	66		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/10/22 15:47
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/10/22 07:44

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 18-19 Batch: WG1660895-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	35		23-120
2-Fluorobiphenyl	33		15-120
4-Terphenyl-d14	**32**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/11/22 11:50
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-17,20 Batch: WG1660990-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	109		23-120
2-Fluorobiphenyl	55		30-120
4-Terphenyl-d14	58		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236582

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 18-19 Batch: WG1660895-2 WG1660895-3								
Naphthalene	50		50		40-140	0		40
Fluorene	48		46		40-140	4		40
Phenanthrene	46		44		40-140	4		40
Anthracene	47		45		40-140	4		40
Pyrene	54		50		26-127	8		40
Benzo(a)anthracene	43		40		40-140	7		40
Chrysene	46		45		40-140	2		40
Benzo(b)fluoranthene	48		45		40-140	6		40
Benzo(a)pyrene	45		41		40-140	9		40
Benzo(ghi)perylene	50		47		40-140	6		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	27		26		23-120
2-Fluorobiphenyl	25		24		15-120
4-Terphenyl-d14	**27**	Q	**25**	Q	41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236582

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-17,20 Batch: WG1660990-2 WG1660990-3								
Naphthalene	57		63		40-140	10		50
Fluorene	64		68		40-140	6		50
Phenanthrene	60		65		40-140	8		50
Anthracene	62		67		40-140	8		50
Pyrene	60		65		35-142	8		50
Benzo(a)anthracene	67		71		40-140	6		50
Chrysene	64		70		40-140	9		50
Benzo(b)fluoranthene	66		76		40-140	14		50
Benzo(a)pyrene	74		75		40-140	1		50
Benzo(ghi)perylene	54		67		40-140	21		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	107		**126**	Q	23-120
2-Fluorobiphenyl	54		58		30-120
4-Terphenyl-d14	59		65		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-01
Client ID: PB-847-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 09:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.08		mg/kg	2.37	0.127	1	07/12/22 12:15	07/15/22 07:18	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-02
Client ID: PB-847-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 09:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.67		mg/kg	2.42	0.130	1	07/12/22 12:15	07/15/22 07:23	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-03
Client ID: PB-847-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 09:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.07		mg/kg	2.17	0.116	1	07/12/22 12:15	07/15/22 07:28	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-04
Client ID: PB-847-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 09:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.69		mg/kg	2.26	0.121	1	07/12/22 12:15	07/15/22 08:04	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-05
Client ID: PB-847-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 09:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.51		mg/kg	2.23	0.119	1	07/12/22 12:15	07/15/22 08:09	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-06
Client ID: PB-847-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 09:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.69		mg/kg	2.31	0.124	1	07/12/22 12:15	07/15/22 08:13	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-07
Client ID: PB-847-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.30		mg/kg	4.63	0.248	2	07/12/22 12:15	07/15/22 15:40	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-08
Client ID: PB-847-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.46		mg/kg	2.36	0.126	1	07/12/22 12:15	07/15/22 08:23	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-09
Client ID: PB-847-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.13		mg/kg	2.50	0.134	1	07/12/22 12:15	07/15/22 08:28	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-10
Client ID: PB-847-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.37		mg/kg	4.80	0.257	2	07/12/22 12:15	07/15/22 15:45	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-11
Client ID: PB-847-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.97		mg/kg	4.44	0.238	2	07/12/22 12:15	07/15/22 09:39	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-12
Client ID: PB-847-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.35		mg/kg	4.54	0.244	2	07/12/22 12:15	07/15/22 09:44	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-13
Client ID: PB-847-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.88		mg/kg	2.30	0.123	1	07/12/22 12:15	07/15/22 08:47	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-14
Client ID: PB-847-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.24		mg/kg	4.85	0.260	2	07/12/22 12:15	07/15/22 10:32	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-15
Client ID: PB-847-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.06		mg/kg	4.52	0.242	2	07/12/22 12:15	07/15/22 10:37	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-16
Client ID: PB-847-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.17		mg/kg	2.40	0.128	1	07/12/22 12:15	07/15/22 09:58	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-17
Client ID: PB-847-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.26		mg/kg	4.70	0.252	2	07/12/22 12:15	07/15/22 10:42	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-18
Client ID: FB-070822-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 13:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/11/22 09:35	07/12/22 09:51	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-19
Client ID: FB-070822-2
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 13:05
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/11/22 09:35	07/12/22 10:06	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-20
Client ID: DUP-37
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.52		mg/kg	2.34	0.125	1	07/12/22 12:15	07/15/22 10:08	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 18-19 Batch: WG1660944-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/11/22 09:35	07/12/22 09:42	1,6020B	SV

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-17,20 Batch: WG1661452-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/12/22 12:15	07/15/22 07:09	1,6010D	SB

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236582

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 18-19 Batch: WG1660944-2								
Lead, Total	100		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-17,20 Batch: WG1661452-2 SRM Lot Number: D113-540								
Lead, Total	80		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236582
Report Date: 07/15/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 18-19 QC Batch ID: WG1660944-3 QC Sample: L2236582-18 Client ID: FB-070822-1												
Lead, Total	ND	530	536.0	101		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-17,20 QC Batch ID: WG1661452-3 QC Sample: L2236658-01 Client ID: MS Sample												
Lead, Total	4.11	42.6	37.2	78		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236582

Report Date: 07/15/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 18-19 QC Batch ID: WG1660944-4 QC Sample: L2236582-18 Client ID: FB-070822-1						
Lead, Total	ND	ND	ug/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-17,20 QC Batch ID: WG1661452-4 QC Sample: L2236658-01 Client ID: DUP Sample						
Lead, Total	4.11	3.93J	mg/kg	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-01
Client ID: PB-847-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 09:00
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.4		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-02
Client ID: PB-847-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 09:10
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.4		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-03
Client ID: PB-847-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.5		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-04
Client ID: PB-847-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 09:30
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.4		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-05
Client ID: PB-847-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 09:40
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.0		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-06
Client ID: PB-847-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 09:50
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.3		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-07
Client ID: PB-847-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:00
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.0		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-08
Client ID: PB-847-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:10
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.9		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-09
Client ID: PB-847-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:20
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	77.1		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-10
Client ID: PB-847-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:30
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.1		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-11
Client ID: PB-847-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:40
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.8		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-12
Client ID: PB-847-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:50
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.0		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-13
Client ID: PB-847-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 11:00
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.8		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-14
Client ID: PB-847-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 11:10
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.9		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-15
Client ID: PB-847-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 11:20
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.1		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-16
Client ID: PB-847-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.1		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-17
Client ID: PB-847-17-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 11:40
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.3		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-20
Client ID: DUP-37
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.3		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236582

Report Date: 07/15/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-17,20 QC Batch ID: WG1661509-1 QC Sample: L2236582-01 Client ID: PB-847-01-SS01						
Solids, Total	81.4	81.7	%	0		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236582
Report Date: 07/15/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236582-01A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-01B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-01C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-01D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-01F	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)
L2236582-02A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-02B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-02C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-02D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-02F	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)
L2236582-03A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-03B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-03C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-03D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-03F	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)
L2236582-04A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2236582-04B	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-04C	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-04D	Plastic 2oz unpreserved for TS	B	NA		4.9	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236582-04E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		PB-TI(180)
L2236582-04F	Glass 120ml/4oz unpreserved	B	NA		4.9	Y	Absent		PA-PAH(14)
L2236582-05A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2236582-05B	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-05C	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-05D	Plastic 2oz unpreserved for TS	B	NA		4.9	Y	Absent		TS(7)
L2236582-05E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		PB-TI(180)
L2236582-05F	Glass 120ml/4oz unpreserved	B	NA		4.9	Y	Absent		PA-PAH(14)
L2236582-06A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2236582-06B	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-06C	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-06D	Plastic 2oz unpreserved for TS	B	NA		4.9	Y	Absent		TS(7)
L2236582-06E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		PB-TI(180)
L2236582-06F	Glass 120ml/4oz unpreserved	B	NA		4.9	Y	Absent		PA-PAH(14)
L2236582-07A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2236582-07B	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-07C	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-07D	Plastic 2oz unpreserved for TS	B	NA		4.9	Y	Absent		TS(7)
L2236582-07E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		PB-TI(180)
L2236582-07F	Glass 250ml/8oz unpreserved	B	NA		4.9	Y	Absent		PA-PAH(14)
L2236582-08A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2236582-08B	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-08C	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-08D	Plastic 2oz unpreserved for TS	B	NA		4.9	Y	Absent		TS(7)
L2236582-08E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		PB-TI(180)
L2236582-08F	Glass 250ml/8oz unpreserved	B	NA		4.9	Y	Absent		PA-PAH(14)
L2236582-09A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-09B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236582-09C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-09D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-09E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-09F	Glass 250ml/8oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)
L2236582-10A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2236582-10B	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-10C	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-10D	Plastic 2oz unpreserved for TS	B	NA		4.9	Y	Absent		TS(7)
L2236582-10E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		PB-TI(180)
L2236582-10F	Glass 250ml/8oz unpreserved	B	NA		4.9	Y	Absent		PA-PAH(14)
L2236582-11A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-11B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-11C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-11D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-11E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-11F	Glass 250ml/8oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)
L2236582-12A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-12B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-12C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-12D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-12E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-12F	Glass 250ml/8oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)
L2236582-13A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-13B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-13C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-13D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-13E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-13F	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236582
Report Date: 07/15/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236582-14A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2236582-14B	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-14C	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-14D	Plastic 2oz unpreserved for TS	B	NA		4.9	Y	Absent		TS(7)
L2236582-14E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		PB-TI(180)
L2236582-14F	Glass 120ml/4oz unpreserved	B	NA		4.9	Y	Absent		PA-PAH(14)
L2236582-15A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2236582-15B	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-15C	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-15D	Plastic 2oz unpreserved for TS	B	NA		4.9	Y	Absent		TS(7)
L2236582-15E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		PB-TI(180)
L2236582-15F	Glass 120ml/4oz unpreserved	B	NA		4.9	Y	Absent		PA-PAH(14)
L2236582-16A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-16B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-16C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-16D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-16E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-16F	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)
L2236582-17A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-17B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-17C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-17D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-17E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-17F	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)
L2236582-18A	Vial HCl preserved	A	NA		2.6	Y	Absent		8011(14),PA-8260(14)
L2236582-18B	Vial HCl preserved	A	NA		2.6	Y	Absent		8011(14),PA-8260(14)
L2236582-18C	Vial HCl preserved	A	NA		2.6	Y	Absent		8011(14),PA-8260(14)
L2236582-18D	Plastic 250ml HNO3 preserved	A	<2	<2	2.6	Y	Absent		PB-6020T-PPB(180)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236582
Report Date: 07/15/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236582-18E	Amber 250ml unpreserved	A	7	7	2.6	Y	Absent		PA-PAHSIM-LVI(7)
L2236582-18F	Amber 250ml unpreserved	A	7	7	2.6	Y	Absent		PA-PAHSIM-LVI(7)
L2236582-19A	Vial HCl preserved	A	NA		2.6	Y	Absent		8011(14),PA-8260(14)
L2236582-19B	Vial HCl preserved	A	NA		2.6	Y	Absent		8011(14),PA-8260(14)
L2236582-19C	Vial HCl preserved	A	NA		2.6	Y	Absent		8011(14),PA-8260(14)
L2236582-19D	Plastic 250ml HNO3 preserved	A	<2	<2	2.6	Y	Absent		PB-6020T-PPB(180)
L2236582-19E	Amber 250ml unpreserved	A	7	7	2.6	Y	Absent		PA-PAHSIM-LVI(7)
L2236582-19F	Amber 250ml unpreserved	A	7	7	2.6	Y	Absent		PA-PAHSIM-LVI(7)
L2236582-20A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-20B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-20C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-20D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-20E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-20F	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236582
Project Number:	200.00135.006	**Report Date:**	07/15/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236582
Project Number:	200.00135.006	**Report Date:**	07/15/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236582
Project Number:	200.00135.006	**Report Date:**	07/15/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236582
Project Number:	200.00135.006	**Report Date:**	07/15/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/9/22

ALPHA Job #: L2231682

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments	TOTAL # BOTTLES
36582 01	PB-847-01-5501	7/8/22	900	S			6
02	PB-847-02-5501		910				
03	PB-847-03-5501		920				
04	PB-847-04-5501		930				
05	PB-847-05-5501		940				
06	PB-847-06-5501		950				
07	PB-847-07-5501		1000				
08	PB-847-08-5501		1010				
09	PB-847-09-5501		1020				
10	PB-847-10-5501	↓	1030	↓	↓		↓

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/8/22 1530		7/8/22 1530
	7/8/22 2100		7/8/22 2100
GL AAL	7/9/22 0830	GL AAL	7/8/22 2310

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(HLD)

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/9/22

ALPHA Job #: L2236582

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments	TOTAL # BOTTLES
36582-11	PB-847-11-5501	7/8/22	1040	S			6
12	PB-847-12-5501		1050				6
13	PB-847-13-5501		1100				6
14	PB-847-14-5501		1110				6
15	PB-847-15-5501		1120				6
16	PB-847-16-5501		1130				6
17	PB-847-17-5501		1140				6
18	FB-070822-1		1300	W		"1"	6
19	FB-070822-2		1305			"2"	6
20	DUP-37	↓	—	S	↓		6

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/8/22 1550	AAL	7/8/22 1550
	7/8/22 Rush		7/8/22 Rush
	7/8/22 2150		7/8/22 2150
AAL 7/9/22 0050	7/8/22	AAL 7/9/22 2316	7/8/22

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

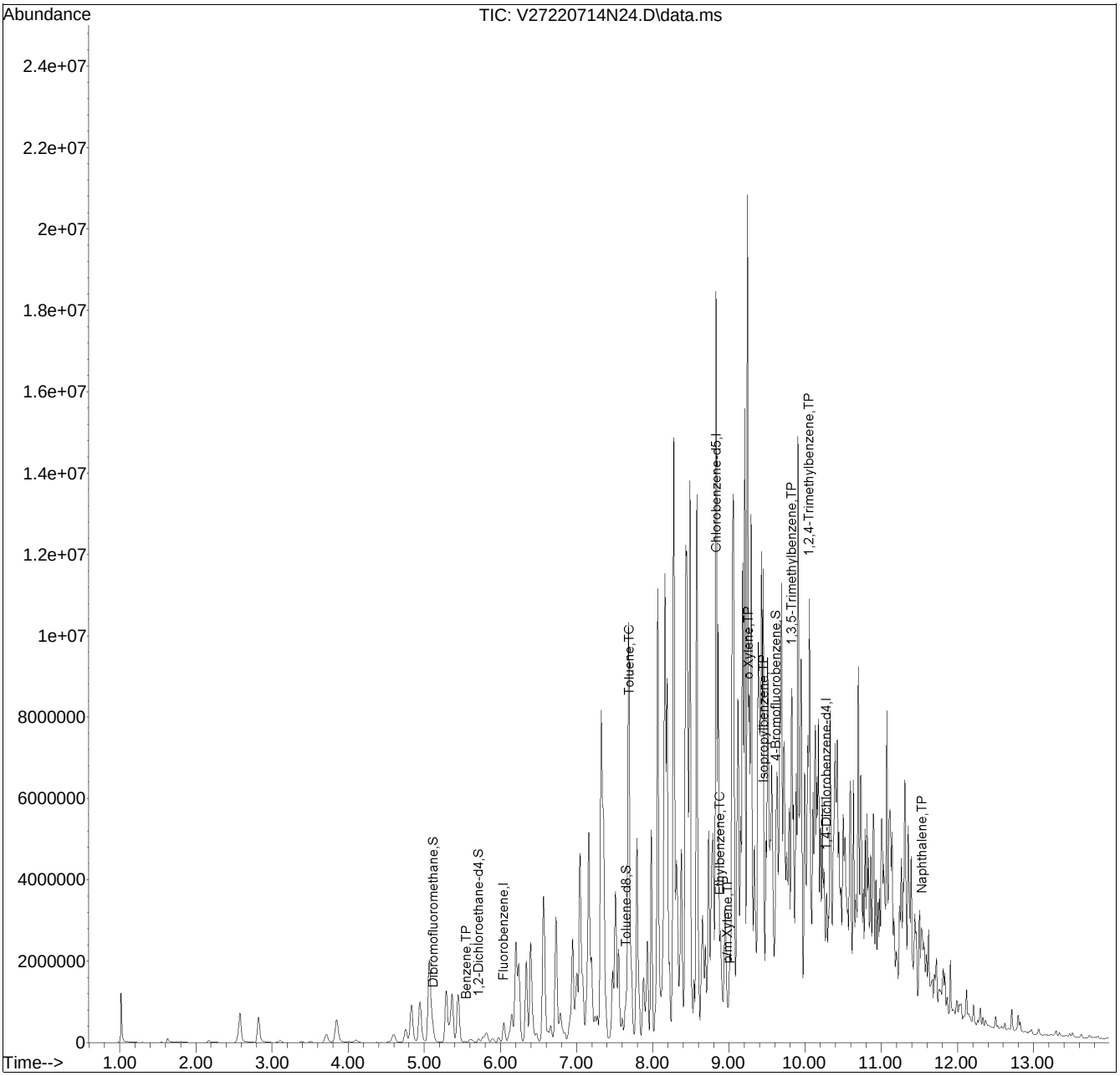
FORM NO: 01-01(1NJ) (rev. 1-JAN-12)

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA127\2022\220714N\
Data File : V27220714N24.D
Acq On : 15 Jul 2022 12:46 am
Operator : VOA127:MKS
Sample : l2236582-12,31,6.79,5,,b,r2f
Misc : WG1663237,ICAL19153
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Jul 15 07:31:13 2022
Quant Method : I:\VOLATILES\VOA127\2022\220714N\V127_220706A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Jul 07 06:48:30 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list14N\V27220714N01.D•

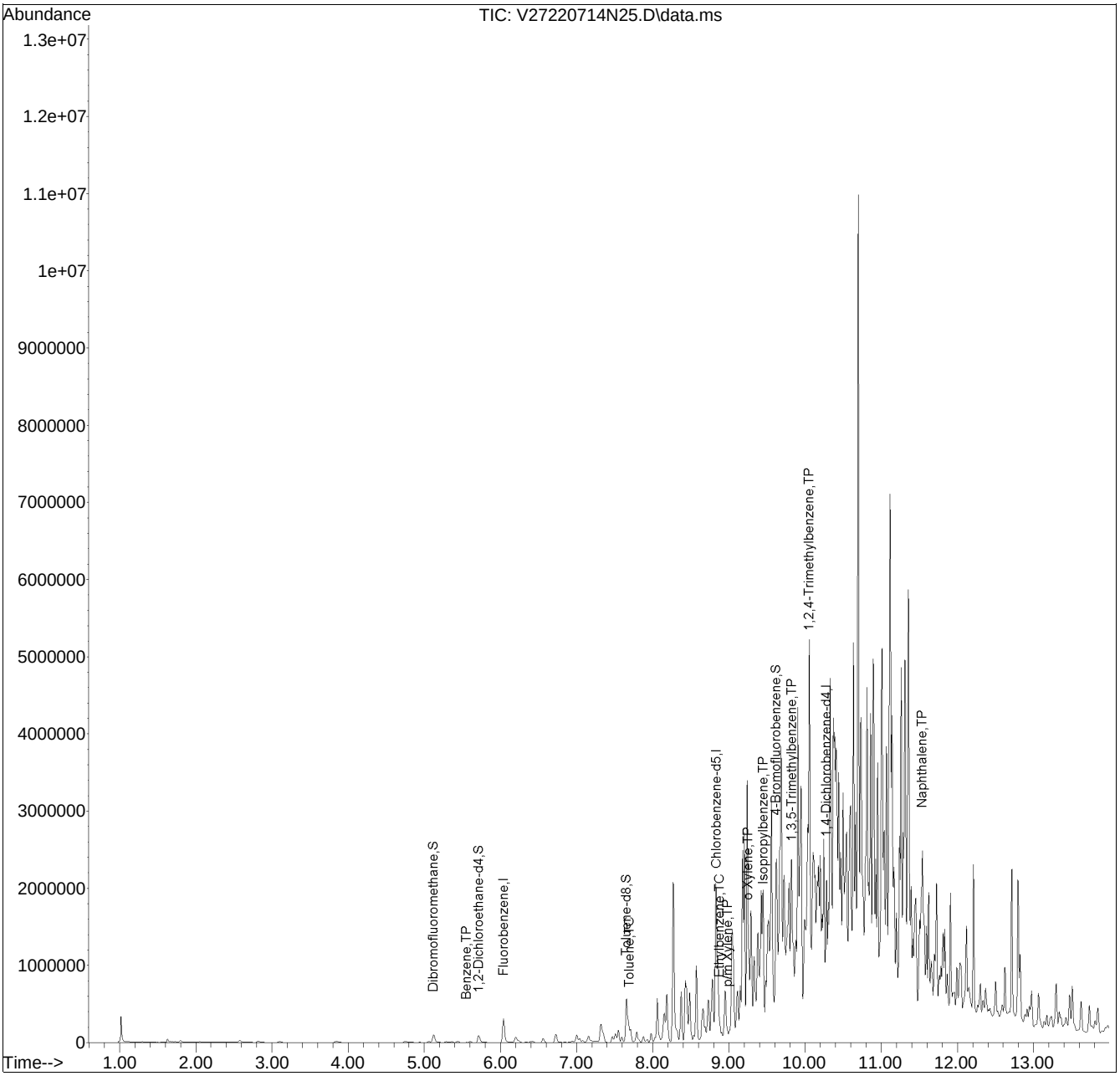


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA127\2022\220714N\
Data File : V27220714N25.D
Acq On : 15 Jul 2022 01:06 am
Operator : VOA127:MKS
Sample : l2236582-13d,31h,6.60,5,0.025,,a,r2f
Misc : WG1663238,ICAL19153
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jul 15 06:42:38 2022
Quant Method : I:\VOLATILES\VOA127\2022\220714N\V127_220706A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Jul 07 06:48:30 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list14N\V27220714N01.D•

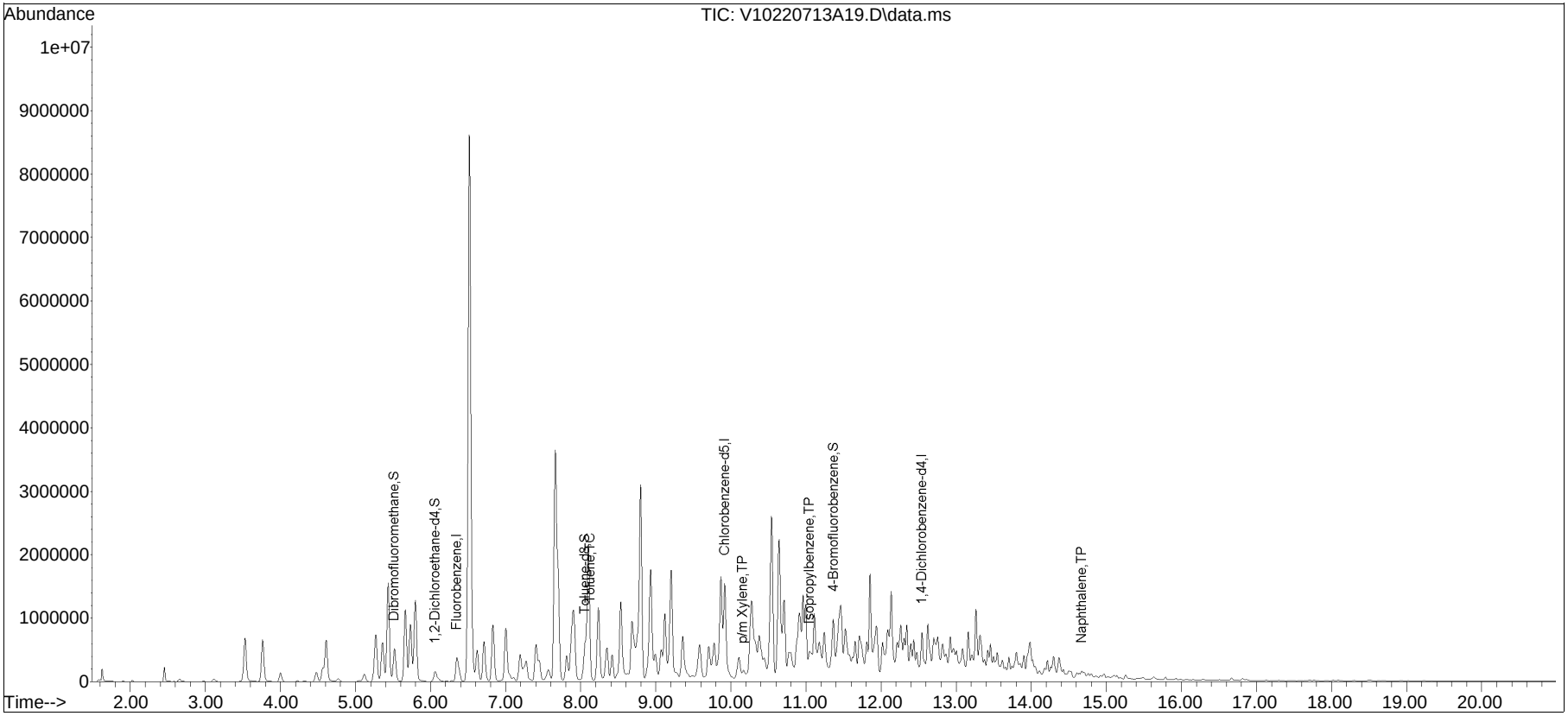


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA110\2022\220713A\
Data File : V10220713A19.D
Acq On : 13 Jul 2022 7:37 pm
Operator : VOA110:JC
Sample : l2236582-14D,31h,6.04,5,0.025,,a,r2f
Misc : WG1662896,ICAL18890
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jul 14 09:25:20 2022
Quant Method : I:\VOLATILES\VOA110\2022\220713A\V110_220401N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 04 06:52:50 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list13A\V10220713A01.D•

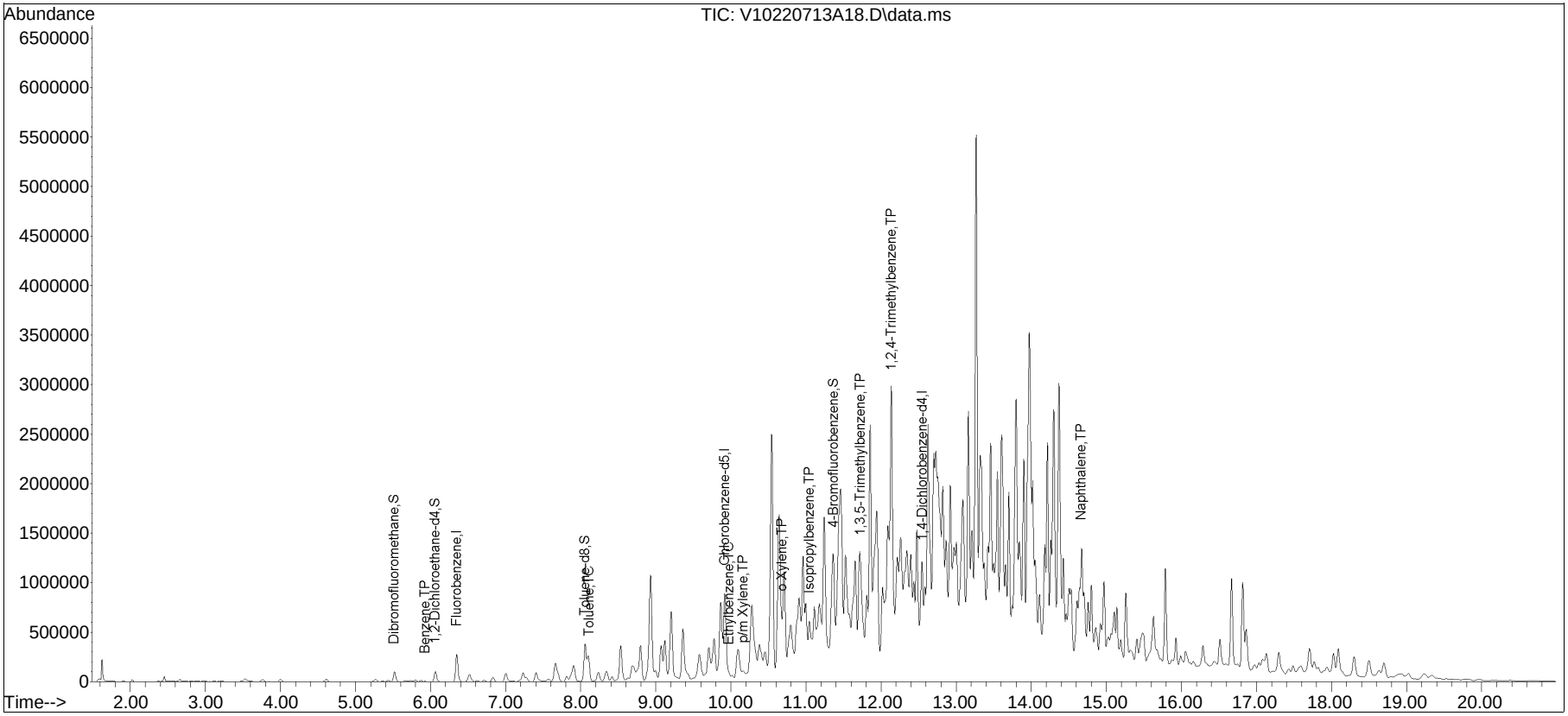


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA110\2022\220713A\
Data File : V10220713A18.D
Acq On : 13 Jul 2022 7:09 pm
Operator : VOA110:JC
Sample : l2236582-15D,31h,5.82,5,0.025,,a,r2f
Misc : WG1662896,ICAL18890
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jul 14 09:18:49 2022
Quant Method : I:\VOLATILES\VOA110\2022\220713A\V110_220401N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 04 06:52:50 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list13A\V10220713A01.D•

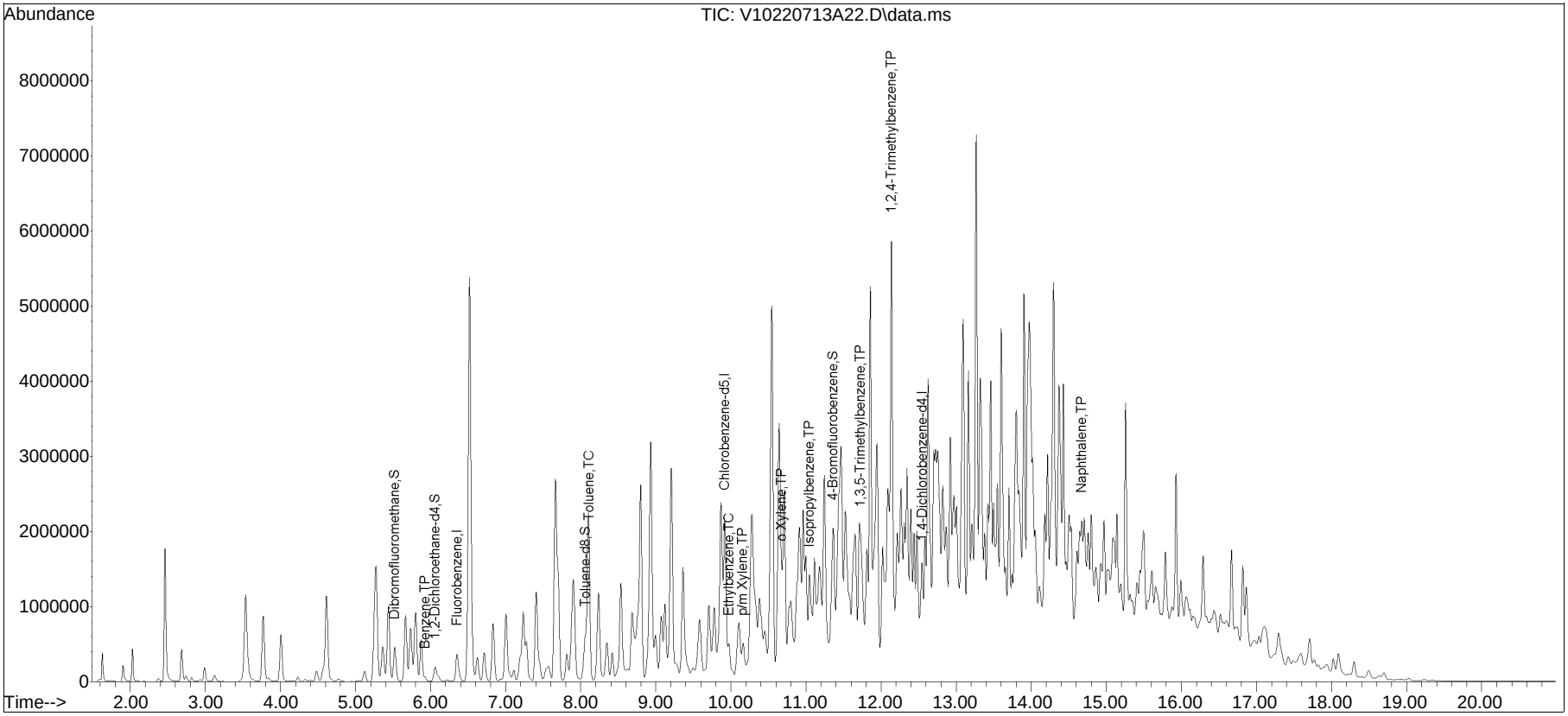


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA110\2022\220713A\
Data File : V10220713A22.D
Acq On : 13 Jul 2022 9:03 pm
Operator : VOA110:JC
Sample : l2236582-17,31,5.72,5,,b,r2f
Misc : WG1662895,ICAL18890
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jul 14 09:25:56 2022
Quant Method : I:\VOLATILES\VOA110\2022\220713A\V110_220401N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 04 06:52:50 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list13A\V10220713A01.D•



ANALYTICAL REPORT

Lab Number:	L2236590
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/15/22

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236590
Report Date: 07/15/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2236590-01	PB-840-01-SS01	SOIL	PHILADELPHIA, PA	07/08/22 09:45	07/08/22
L2236590-02	PB-840-02-SS01	SOIL	PHILADELPHIA, PA	07/08/22 09:50	07/08/22
L2236590-03	PB-840-03-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:00	07/08/22
L2236590-04	PB-840-04-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:10	07/08/22
L2236590-05	PB-840-05-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:20	07/08/22
L2236590-06	PB-840-06-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:30	07/08/22
L2236590-07	PB-840-07-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:40	07/08/22
L2236590-08	PB-840-08-SS01	SOIL	PHILADELPHIA, PA	07/08/22 11:20	07/08/22
L2236590-09	PB-840-09-SS01	SOIL	PHILADELPHIA, PA	07/08/22 11:30	07/08/22
L2236590-10	PB-840-10-SS01	SOIL	PHILADELPHIA, PA	07/08/22 11:40	07/08/22
L2236590-11	PB-840-11-SS01	SOIL	PHILADELPHIA, PA	07/08/22 12:00	07/08/22
L2236590-12	PB-840-12-SS01	SOIL	PHILADELPHIA, PA	07/08/22 12:10	07/08/22
L2236590-13	PB-840-13-SS01	SOIL	PHILADELPHIA, PA	07/08/22 12:20	07/08/22
L2236590-14	PB-840-14-SS01	SOIL	PHILADELPHIA, PA	07/08/22 12:30	07/08/22
L2236590-15	PB-840-15-SS01	SOIL	PHILADELPHIA, PA	07/08/22 12:40	07/08/22
L2236590-16	PB-840-16-SS01	SOIL	PHILADELPHIA, PA	07/08/22 12:50	07/08/22
L2236590-17	DUP-38	SOIL	PHILADELPHIA, PA	07/08/22 00:00	07/08/22
L2236590-18	FB-070822-3	WATER	PHILADELPHIA, PA	07/08/22 13:00	07/08/22
L2236590-19	FB-070822-4	WATER	PHILADELPHIA, PA	07/08/22 13:10	07/08/22
L2236590-20	TB-070822	WATER	PHILADELPHIA, PA	07/08/22 00:00	07/08/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236590
Project Number:	200.00135.006	**Report Date:**	07/15/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236590
Project Number:	200.00135.006	**Report Date:**	07/15/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2236590-01: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (141%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236590-15: The surrogate recovery is outside the acceptance criteria for 1,2-dichloroethane-d4 (67%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Total Metals

The WG1661456-4 Laboratory Duplicate RPD for lead (50%), performed on L2236590-01, is outside the acceptance criteria. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Caitlin Walukevich

Title: Technical Director/Representative

Date: 07/15/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-01
Client ID: PB-840-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:45
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 22:51
Analyst: MKS
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0032	0.00032	1
Benzene	0.0060		mg/kg	0.00080	0.00027	1
1,2-Dichloroethane	ND		mg/kg	0.0016	0.00041	1
Toluene	0.0026		mg/kg	0.0016	0.00087	1
1,2-Dibromoethane	ND		mg/kg	0.00080	0.00047	1
Ethylbenzene	0.00068	J	mg/kg	0.0016	0.00023	1
p/m-Xylene	0.0070		mg/kg	0.0032	0.00090	1
o-Xylene	0.0010	J	mg/kg	0.0016	0.00047	1
Xylenes, Total	0.0080	J	mg/kg	0.0016	0.00047	1
Isopropylbenzene	0.0092		mg/kg	0.0016	0.00018	1
1,3,5-Trimethylbenzene	0.0023	J	mg/kg	0.0032	0.00031	1
1,2,4-Trimethylbenzene	0.0014	J	mg/kg	0.0032	0.00054	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	73		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	**141**	Q	70-130
Dibromofluoromethane	87		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-02
Client ID: PB-840-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 02:06
Analyst: JC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	0.00021	J	mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	0.00019	J	mg/kg	0.0010	0.00014	1
p/m-Xylene	0.0020		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	0.0020		mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.00034	J	mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	0.0059		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	0.0035		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	74		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	89		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-03
Client ID: PB-840-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 22:38
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00095	0.00024	1
Toluene	ND		mg/kg	0.00095	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	0.00028	J	mg/kg	0.00095	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00053	1
o-Xylene	ND		mg/kg	0.00095	0.00028	1
Xylenes, Total	ND		mg/kg	0.00095	0.00028	1
Isopropylbenzene	0.00015	J	mg/kg	0.00095	0.00010	1
1,3,5-Trimethylbenzene	0.00062	J	mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	77		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-04
Client ID: PB-840-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 23:01
Analyst: JC
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00057	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00031	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	84		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-05
Client ID: PB-840-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 23:14
Analyst: MKS
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0029	0.00029	1
Benzene	ND		mg/kg	0.00072	0.00024	1
1,2-Dichloroethane	ND		mg/kg	0.0014	0.00037	1
Toluene	ND		mg/kg	0.0014	0.00079	1
1,2-Dibromoethane	ND		mg/kg	0.00072	0.00042	1
Ethylbenzene	ND		mg/kg	0.0014	0.00020	1
p/m-Xylene	ND		mg/kg	0.0029	0.00081	1
o-Xylene	ND		mg/kg	0.0014	0.00042	1
Xylenes, Total	ND		mg/kg	0.0014	0.00042	1
Isopropylbenzene	ND		mg/kg	0.0014	0.00016	1
1,3,5-Trimethylbenzene	0.00047	J	mg/kg	0.0029	0.00028	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0029	0.00048	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	73		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	91		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-06
Client ID: PB-840-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 23:37
Analyst: MKS
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00019	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00093	0.00024	1
Toluene	ND		mg/kg	0.00093	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	0.00058	J	mg/kg	0.00093	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00052	1
o-Xylene	ND		mg/kg	0.00093	0.00027	1
Xylenes, Total	ND		mg/kg	0.00093	0.00027	1
Isopropylbenzene	0.0016		mg/kg	0.00093	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	73		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	87		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-07
Client ID: PB-840-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 23:24
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00023	1
Benzene	0.023		mg/kg	0.00056	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	0.00079	J	mg/kg	0.0011	0.00061	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	0.016		mg/kg	0.0011	0.00016	1
p/m-Xylene	0.043		mg/kg	0.0022	0.00063	1
o-Xylene	0.0011		mg/kg	0.0011	0.00033	1
Xylenes, Total	0.044		mg/kg	0.0011	0.00033	1
Isopropylbenzene	0.0020		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.0056		mg/kg	0.0022	0.00022	1
1,2,4-Trimethylbenzene	0.019		mg/kg	0.0022	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	76		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	90		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-08
Client ID: PB-840-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 23:47
Analyst: JC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	0.00069		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00061	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	0.00015	J	mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	80		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-09 D2
Client ID: PB-840-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 01:09
Analyst: MKS
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,4-Trimethylbenzene	92.		mg/kg	1.2	0.20	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	72		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	84		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-09 D
Client ID: PB-840-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 04:46
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.61	0.061	5
Benzene	4.4		mg/kg	0.15	0.050	5
1,2-Dichloroethane	ND		mg/kg	0.30	0.078	5
Toluene	0.30		mg/kg	0.30	0.16	5
1,2-Dibromoethane	ND		mg/kg	0.15	0.089	5
Ethylbenzene	66.		mg/kg	0.30	0.043	5
p/m-Xylene	160		mg/kg	0.61	0.17	5
o-Xylene	37.		mg/kg	0.30	0.089	5
Xylenes, Total	200		mg/kg	0.30	0.089	5
Isopropylbenzene	15.		mg/kg	0.30	0.033	5
1,3,5-Trimethylbenzene	33.		mg/kg	0.61	0.059	5
1,2,4-Trimethylbenzene	92.	E	mg/kg	0.61	0.10	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	71		70-130
Toluene-d8	111		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	83		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-10
Client ID: PB-840-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 00:10
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	0.022		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	0.022		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.0038		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	0.012		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	78		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-11
Client ID: PB-840-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 23:59
Analyst: MKS
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0016	0.00016	1
Benzene	0.0084		mg/kg	0.00039	0.00013	1
1,2-Dichloroethane	ND		mg/kg	0.00078	0.00020	1
Toluene	ND		mg/kg	0.00078	0.00042	1
1,2-Dibromoethane	ND		mg/kg	0.00039	0.00023	1
Ethylbenzene	0.0097		mg/kg	0.00078	0.00011	1
p/m-Xylene	0.054		mg/kg	0.0016	0.00044	1
o-Xylene	0.0049		mg/kg	0.00078	0.00023	1
Xylenes, Total	0.059		mg/kg	0.00078	0.00023	1
Isopropylbenzene	0.0058		mg/kg	0.00078	0.00008	1
1,3,5-Trimethylbenzene	0.040		mg/kg	0.0016	0.00015	1
1,2,4-Trimethylbenzene	0.072		mg/kg	0.0016	0.00026	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	75		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	124		70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-12
Client ID: PB-840-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 00:33
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00053	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00027	1
Toluene	ND		mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00060	1
o-Xylene	ND		mg/kg	0.0011	0.00031	1
Xylenes, Total	ND		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	74		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	89		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-13
Client ID: PB-840-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 00:57
Analyst: JC
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00059	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00064	1
1,2-Dibromoethane	ND		mg/kg	0.00059	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00066	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-14
Client ID: PB-840-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 12:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 01:20
Analyst: JC
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00061	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	86		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-15
Client ID: PB-840-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 00:22
Analyst: MKS
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**67**	Q	70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	84		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-16
Client ID: PB-840-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 00:45
Analyst: MKS
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00044	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00089	0.00023	1
Toluene	ND		mg/kg	0.00089	0.00048	1
1,2-Dibromoethane	ND		mg/kg	0.00044	0.00026	1
Ethylbenzene	ND		mg/kg	0.00089	0.00012	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00089	0.00026	1
Xylenes, Total	ND		mg/kg	0.00089	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00089	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	71		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	88		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-17
Client ID: DUP-38
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 01:43
Analyst: JC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00057	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00030	1
Toluene	ND		mg/kg	0.0011	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00057	0.00034	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00064	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	87		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-18
Client ID: FB-070822-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 16:26
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-18
Client ID: FB-070822-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/13/22 20:02
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	125		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	126		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-19
Client ID: FB-070822-4
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 16:33
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-19
Client ID: FB-070822-4
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 13:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/13/22 19:36
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	124		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	127		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-20
Client ID: TB-070822
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 16:39
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-20
Client ID: TB-070822
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/13/22 19:10
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	120		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/13/22 14:45
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 18-20 Batch: WG1662273-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2236590

Project Number: 200.00135.006 **Report Date:** 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/13/22 21:06
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-04,07-08,10,12-14,17 Batch: WG1662979-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/13/22 21:06
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 09 Batch: WG1662980-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/14/22 20:32
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,05-06,11,15-16 Batch: WG1663272-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/14/22 20:32
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 09 Batch: WG1663273-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/13/22 17:26
Analyst: TMS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 18-20 Batch: WG1663309-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	119		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 18-20 Batch: WG1662273-2								
1,2-Dibromoethane	110		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-04,07-08,10,12-14,17 Batch: WG1662979-3 WG1662979-4								
Methyl tert butyl ether	90		90		66-130	0		30
Benzene	83		82		70-130	1		30
1,2-Dichloroethane	**66**	Q	**66**	Q	70-130	0		30
Toluene	81		78		70-130	4		30
1,2-Dibromoethane	90		89		70-130	1		30
Ethylbenzene	80		77		70-130	4		30
p/m-Xylene	85		81		70-130	5		30
o-Xylene	86		82		70-130	5		30
Isopropylbenzene	81		77		70-130	5		30
1,3,5-Trimethylbenzene	82		77		70-130	6		30
1,2,4-Trimethylbenzene	83		78		70-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	77		77		70-130
Toluene-d8	97		97		70-130
4-Bromofluorobenzene	95		94		70-130
Dibromofluoromethane	91		91		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 09 Batch: WG1662980-3 WG1662980-4								
Methyl tert butyl ether	90		90		66-130	0		30
Benzene	83		82		70-130	1		30
1,2-Dichloroethane	**66**	Q	**66**	Q	70-130	0		30
Toluene	81		78		70-130	4		30
1,2-Dibromoethane	90		89		70-130	1		30
Ethylbenzene	80		77		70-130	4		30
p/m-Xylene	85		81		70-130	5		30
o-Xylene	86		82		70-130	5		30
Isopropylbenzene	81		77		70-130	5		30
1,3,5-Trimethylbenzene	82		77		70-130	6		30
1,2,4-Trimethylbenzene	83		78		70-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	77		77		70-130
Toluene-d8	97		97		70-130
4-Bromofluorobenzene	95		94		70-130
Dibromofluoromethane	91		91		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236590
Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,05-06,11,15-16 Batch: WG1663272-3 WG1663272-4								
Methyl tert butyl ether	102		95		66-130	7		30
Benzene	95		94		70-130	1		30
1,2-Dichloroethane	71		71		70-130	0		30
Toluene	93		92		70-130	1		30
1,2-Dibromoethane	97		96		70-130	1		30
Ethylbenzene	92		91		70-130	1		30
p/m-Xylene	97		96		70-130	1		30
o-Xylene	97		94		70-130	3		30
Isopropylbenzene	97		97		70-130	0		30
1,3,5-Trimethylbenzene	94		95		70-130	1		30
1,2,4-Trimethylbenzene	95		94		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	77		76		70-130
Toluene-d8	96		97		70-130
4-Bromofluorobenzene	96		97		70-130
Dibromofluoromethane	95		91		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236590
Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 09 Batch: WG1663273-3 WG1663273-4								
Methyl tert butyl ether	102		95		66-130	7		30
Benzene	95		94		70-130	1		30
1,2-Dichloroethane	71		71		70-130	0		30
Toluene	93		92		70-130	1		30
1,2-Dibromoethane	97		96		70-130	1		30
Ethylbenzene	92		91		70-130	1		30
p/m-Xylene	97		96		70-130	1		30
o-Xylene	97		94		70-130	3		30
Isopropylbenzene	97		97		70-130	0		30
1,3,5-Trimethylbenzene	94		95		70-130	1		30
1,2,4-Trimethylbenzene	95		94		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	77		76		70-130
Toluene-d8	96		97		70-130
4-Bromofluorobenzene	96		97		70-130
Dibromofluoromethane	95		91		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 18-20 Batch: WG1663309-3 WG1663309-4								
Methyl tert butyl ether	95		97		63-130	2		20
Benzene	98		100		70-130	2		20
1,2-Dichloroethane	100		100		70-130	0		20
Toluene	95		96		70-130	1		20
Ethylbenzene	94		96		70-130	2		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
Isopropylbenzene	88		92		70-130	4		20
1,3,5-Trimethylbenzene	91		95		64-130	4		20
1,2,4-Trimethylbenzene	90		94		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		105		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	102		94		70-130
Dibromofluoromethane	102		104		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-01
Client ID: PB-840-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:45
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 08:06
Analyst: SLR
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.046	J	mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	0.19		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	0.21		mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.15		mg/kg	0.12	0.022	1
Chrysene	0.22		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.18		mg/kg	0.12	0.033	1
Benzo(a)pyrene	0.15	J	mg/kg	0.16	0.048	1
Benzo(ghi)perylene	0.12	J	mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	118		23-120
2-Fluorobiphenyl	61		30-120
4-Terphenyl-d14	75		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-02
Client ID: PB-840-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 05:46
Analyst: SLR
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.023	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	114		23-120
2-Fluorobiphenyl	60		30-120
4-Terphenyl-d14	72		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-03
Client ID: PB-840-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 04:35
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	105		23-120
2-Fluorobiphenyl	56		30-120
4-Terphenyl-d14	66		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-04
Client ID: PB-840-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 03:25
Analyst: SLR
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**139**	Q	23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	81		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-05
Client ID: PB-840-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 10:27
Analyst: SLR
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.075	J	mg/kg	0.18	0.022	1
Fluorene	0.023	J	mg/kg	0.18	0.017	1
Phenanthrene	0.073	J	mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	0.056	J	mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.030	J	mg/kg	0.11	0.020	1
Chrysene	0.056	J	mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	0.053	J	mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	0.025	J	mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**126**	Q	23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	76		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-06
Client ID: PB-840-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 09:16
Analyst: SLR
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.023	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	0.049	J	mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	0.018	J	mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**130**	Q	23-120
2-Fluorobiphenyl	65		30-120
4-Terphenyl-d14	75		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-07
Client ID: PB-840-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 06:56
Analyst: SLR
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**145**	Q	23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-08
Client ID: PB-840-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 06:32
Analyst: SLR
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	116		23-120
2-Fluorobiphenyl	63		30-120
4-Terphenyl-d14	76		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-09
Client ID: PB-840-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 10:50
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	10.	E	mg/kg	0.19	0.023	1
Fluorene	1.9		mg/kg	0.19	0.019	1
Phenanthrene	4.8		mg/kg	0.12	0.023	1
Anthracene	0.16		mg/kg	0.12	0.037	1
Pyrene	0.48		mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.97		mg/kg	0.12	0.022	1
Chrysene	0.22		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.12		mg/kg	0.12	0.032	1
Benzo(a)pyrene	0.096	J	mg/kg	0.15	0.047	1
Benzo(ghi)perylene	0.072	J	mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**235**	Q	23-120
2-Fluorobiphenyl	53		30-120
4-Terphenyl-d14	57		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-09 D
Client ID: PB-840-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 16:11
Analyst: JG
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	9.3		mg/kg	1.9	0.23	10

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-10
Client ID: PB-840-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 06:09
Analyst: SLR
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.022	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**144**	Q	23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	89		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-11
Client ID: PB-840-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 09:40
Analyst: SLR
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.090	J	mg/kg	0.20	0.024	1
Fluorene	0.072	J	mg/kg	0.20	0.019	1
Phenanthrene	0.18		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	0.031	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	0.041	J	mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**124**	Q	23-120
2-Fluorobiphenyl	62		30-120
4-Terphenyl-d14	72		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-12
Client ID: PB-840-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 07:19
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**141**	Q	23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	81		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-13
Client ID: PB-840-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 07:42
Analyst: SLR
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 20:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.023	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**123**	Q	23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	77		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-14
Client ID: PB-840-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 10:03
Analyst: SLR
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 20:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	0.17		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	0.28		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.18		mg/kg	0.11	0.020	1
Chrysene	0.17		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	0.22		mg/kg	0.11	0.030	1
Benzo(a)pyrene	0.18		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	0.099	J	mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	110		23-120
2-Fluorobiphenyl	56		30-120
4-Terphenyl-d14	67		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-15
Client ID: PB-840-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 07:42
Analyst: CMM
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 20:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.091	J	mg/kg	0.18	0.022	1
Fluorene	0.050	J	mg/kg	0.18	0.017	1
Phenanthrene	0.41		mg/kg	0.11	0.022	1
Anthracene	0.11		mg/kg	0.11	0.035	1
Pyrene	0.68		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.48		mg/kg	0.11	0.020	1
Chrysene	0.44		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	0.57		mg/kg	0.11	0.030	1
Benzo(a)pyrene	0.46		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	0.22		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	79		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-16
Client ID: PB-840-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 20:27
Analyst: JG
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:48

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	0.14		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	0.18		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.12		mg/kg	0.11	0.021	1
Chrysene	0.13		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.18		mg/kg	0.11	0.031	1
Benzo(a)pyrene	0.14	J	mg/kg	0.15	0.045	1
Benzo(ghi)perylene	0.098	J	mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	119		23-120
2-Fluorobiphenyl	62		30-120
4-Terphenyl-d14	68		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-17
Client ID: DUP-38
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 20:50
Analyst: JG
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:48

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.045	J	mg/kg	0.19	0.023	1
Fluorene	0.052	J	mg/kg	0.19	0.018	1
Phenanthrene	0.39		mg/kg	0.11	0.023	1
Anthracene	0.092	J	mg/kg	0.11	0.036	1
Pyrene	0.53		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.44		mg/kg	0.11	0.021	1
Chrysene	0.43		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.52		mg/kg	0.11	0.031	1
Benzo(a)pyrene	0.40		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	0.18		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**133**	Q	23-120
2-Fluorobiphenyl	65		30-120
4-Terphenyl-d14	69		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-18
Client ID: FB-070822-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/10/22 16:35
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 07/10/22 07:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	33		23-120
2-Fluorobiphenyl	33		15-120
4-Terphenyl-d14	**35**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-19
Client ID: FB-070822-4
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/10/22 16:51
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 07/10/22 07:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	33		23-120
2-Fluorobiphenyl	33		15-120
4-Terphenyl-d14	**38**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/10/22 15:47
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/10/22 07:44

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 18-19 Batch: WG1660895-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	35		23-120
2-Fluorobiphenyl	33		15-120
4-Terphenyl-d14	**32**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/11/22 11:50
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 16-17 Batch: WG1660990-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	109		23-120
2-Fluorobiphenyl	55		30-120
4-Terphenyl-d14	58		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/12/22 01:51
Analyst: SLR

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-15 Batch: WG1661021-1					
Naphthalene	ND		mg/kg	0.17	0.020
Fluorene	ND		mg/kg	0.17	0.016
Phenanthrene	ND		mg/kg	0.10	0.020
Anthracene	ND		mg/kg	0.10	0.032
Pyrene	ND		mg/kg	0.10	0.016
Benzo(a)anthracene	ND		mg/kg	0.10	0.019
Chrysene	ND		mg/kg	0.10	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.020

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	119		23-120
2-Fluorobiphenyl	63		30-120
4-Terphenyl-d14	76		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 18-19 Batch: WG1660895-2 WG1660895-3								
Naphthalene	50		50		40-140	0		40
Fluorene	48		46		40-140	4		40
Phenanthrene	46		44		40-140	4		40
Anthracene	47		45		40-140	4		40
Pyrene	54		50		26-127	8		40
Benzo(a)anthracene	43		40		40-140	7		40
Chrysene	46		45		40-140	2		40
Benzo(b)fluoranthene	48		45		40-140	6		40
Benzo(a)pyrene	45		41		40-140	9		40
Benzo(ghi)perylene	50		47		40-140	6		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	27		26		23-120
2-Fluorobiphenyl	25		24		15-120
4-Terphenyl-d14	**27**	Q	**25**	Q	41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 16-17 Batch: WG1660990-2 WG1660990-3								
Naphthalene	57		63		40-140	10		50
Fluorene	64		68		40-140	6		50
Phenanthrene	60		65		40-140	8		50
Anthracene	62		67		40-140	8		50
Pyrene	60		65		35-142	8		50
Benzo(a)anthracene	67		71		40-140	6		50
Chrysene	64		70		40-140	9		50
Benzo(b)fluoranthene	66		76		40-140	14		50
Benzo(a)pyrene	74		75		40-140	1		50
Benzo(ghi)perylene	54		67		40-140	21		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	107		**126**	Q	23-120
2-Fluorobiphenyl	54		58		30-120
4-Terphenyl-d14	59		65		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-15 Batch: WG1661021-2 WG1661021-3								
Naphthalene	73		64		40-140	13		50
Fluorene	81		70		40-140	15		50
Phenanthrene	78		68		40-140	**199**	Q	50
Anthracene	79		69		40-140	14		50
Pyrene	79		68		35-142	15		50
Benzo(a)anthracene	85		74		40-140	14		50
Chrysene	84		72		40-140	15		50
Benzo(b)fluoranthene	93		81		40-140	14		50
Benzo(a)pyrene	91		78		40-140	15		50
Benzo(ghi)perylene	81		69		40-140	16		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	**131**	Q	113		23-120
2-Fluorobiphenyl	69		60		30-120
4-Terphenyl-d14	79		71		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-01
Client ID: PB-840-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 09:45
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	19.2		mg/kg	4.58	0.246	2	07/12/22 12:36	07/15/22 10:51	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-02
Client ID: PB-840-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 09:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.66		mg/kg	2.26	0.121	1	07/12/22 12:36	07/15/22 08:26	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-03
Client ID: PB-840-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.92		mg/kg	2.29	0.123	1	07/12/22 12:36	07/15/22 08:31	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-04
Client ID: PB-840-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	10.9		mg/kg	2.02	0.108	1	07/12/22 12:36	07/15/22 09:07	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-05
Client ID: PB-840-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	103		mg/kg	2.12	0.113	1	07/12/22 12:36	07/15/22 09:12	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-06
Client ID: PB-840-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.05		mg/kg	2.20	0.118	1	07/12/22 12:36	07/15/22 09:16	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-07
Client ID: PB-840-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.94		mg/kg	2.26	0.121	1	07/12/22 12:36	07/15/22 09:21	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-08
Client ID: PB-840-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.75		mg/kg	2.33	0.125	1	07/12/22 12:36	07/15/22 09:25	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-09
Client ID: PB-840-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.30		mg/kg	2.27	0.122	1	07/12/22 12:36	07/15/22 09:30	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-10
Client ID: PB-840-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.38		mg/kg	2.25	0.120	1	07/12/22 12:36	07/15/22 09:35	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-11
Client ID: PB-840-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 12:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.06		mg/kg	2.36	0.127	1	07/12/22 12:36	07/15/22 09:39	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-12
Client ID: PB-840-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 12:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.21		mg/kg	2.26	0.121	1	07/12/22 12:36	07/15/22 09:44	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-13
Client ID: PB-840-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 12:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.78		mg/kg	2.10	0.113	1	07/12/22 12:36	07/15/22 09:48	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-14
Client ID: PB-840-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 12:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	44.4		mg/kg	2.09	0.112	1	07/12/22 12:36	07/15/22 10:28	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-15
Client ID: PB-840-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 12:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	49.2		mg/kg	4.30	0.231	2	07/12/22 12:36	07/15/22 15:11	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-16
Client ID: PB-840-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 12:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	53.1		mg/kg	2.22	0.119	1	07/12/22 12:36	07/15/22 10:37	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-17
Client ID: DUP-38
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	36.7		mg/kg	2.20	0.118	1	07/12/22 12:36	07/15/22 10:42	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-18
Client ID: FB-070822-3
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 13:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/11/22 09:35	07/12/22 10:41	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-19
Client ID: FB-070822-4
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 13:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/11/22 09:35	07/12/22 10:46	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 18-19 Batch: WG1660944-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/11/22 09:35	07/12/22 09:42	1,6020B	SV

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-17 Batch: WG1661456-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/12/22 12:36	07/15/22 08:17	1,6010D	NB

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 18-19 Batch: WG1660944-2								
Lead, Total	100		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-17 Batch: WG1661456-2 SRM Lot Number: D113-540								
Lead, Total	84		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236590
Report Date: 07/15/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 18-19 QC Batch ID: WG1660944-3 QC Sample: L2236582-18 Client ID: MS Sample												
Lead, Total	ND	530	536.0	101		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-17 QC Batch ID: WG1661456-3 QC Sample: L2236590-01 Client ID: PB-840-01-SS01												
Lead, Total	19.2	48.2	57.6	80		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 18-19 QC Batch ID: WG1660944-4 QC Sample: L2236582-18 Client ID: DUP Sample						
Lead, Total	ND	ND	ug/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-17 QC Batch ID: WG1661456-4 QC Sample: L2236590-01 Client ID: PB-840-01-SS01						
Lead, Total	19.2	32.1	mg/kg	**50**	Q	20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-01
Client ID: PB-840-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 09:45
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.8		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-02
Client ID: PB-840-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 09:50
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.2		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-03
Client ID: PB-840-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/08/22 10:00
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.0		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-04
Client ID: PB-840-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:10
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.3		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-05
Client ID: PB-840-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:20
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.8		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-06
Client ID: PB-840-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:30
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.8		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-07
Client ID: PB-840-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:40
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.4		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-08
Client ID: PB-840-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/08/22 11:20
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.5		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-09
Client ID: PB-840-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.2		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-10
Client ID: PB-840-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/08/22 11:40
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.3		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-11
Client ID: PB-840-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 12:00
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-12
Client ID: PB-840-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 12:10
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.0		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-13
Client ID: PB-840-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 12:20
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.7		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-14
Client ID: PB-840-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 12:30
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.2		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-15
Client ID: PB-840-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/08/22 12:40
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.1		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-16
Client ID: PB-840-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/08/22 12:50
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.2		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-17
Client ID: DUP-38
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.2		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-17 QC Batch ID: WG1661481-1 QC Sample: L2236590-01 Client ID: PB-840-01-SS01						
Solids, Total	82.8	82.6	%	0		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236590
Report Date: 07/15/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236590-01A	Vial MeOH preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-01B	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-01C	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-01D	Plastic 2oz unpreserved for TS	B	NA		5.8	Y	Absent		TS(7)
L2236590-01E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PB-TI(180)
L2236590-01F	Glass 120ml/4oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-02A	Vial MeOH preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-02B	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-02C	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-02D	Plastic 2oz unpreserved for TS	B	NA		5.8	Y	Absent		TS(7)
L2236590-02E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PB-TI(180)
L2236590-02F	Glass 120ml/4oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-03A	Vial MeOH preserved	A	NA		2.4	Y	Absent		PA-8260HLW(14)
L2236590-03B	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-03C	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-03D	Plastic 2oz unpreserved for TS	A	NA		2.4	Y	Absent		TS(7)
L2236590-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		PB-TI(180)
L2236590-03F	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		PA-PAH(14)
L2236590-04A	Vial MeOH preserved	A	NA		2.4	Y	Absent		PA-8260HLW(14)
L2236590-04B	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-04C	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-04D	Plastic 2oz unpreserved for TS	A	NA		2.4	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236590-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		PB-TI(180)
L2236590-04F	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		PA-PAH(14)
L2236590-05A	Vial MeOH preserved	A	NA		2.4	Y	Absent		PA-8260HLW(14)
L2236590-05B	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-05C	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-05D	Plastic 2oz unpreserved for TS	A	NA		2.4	Y	Absent		TS(7)
L2236590-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		PB-TI(180)
L2236590-05F	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		PA-PAH(14)
L2236590-06A	Vial MeOH preserved	A	NA		2.4	Y	Absent		PA-8260HLW(14)
L2236590-06B	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-06C	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-06D	Plastic 2oz unpreserved for TS	A	NA		2.4	Y	Absent		TS(7)
L2236590-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		PB-TI(180)
L2236590-06F	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		PA-PAH(14)
L2236590-07A	Vial MeOH preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-07B	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-07C	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-07D	Plastic 2oz unpreserved for TS	B	NA		5.8	Y	Absent		TS(7)
L2236590-07E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PB-TI(180)
L2236590-07F	Glass 120ml/4oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-08A	Vial MeOH preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-08B	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-08C	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-08D	Plastic 2oz unpreserved for TS	B	NA		5.8	Y	Absent		TS(7)
L2236590-08E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PB-TI(180)
L2236590-08F	Glass 120ml/4oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-09A	Vial MeOH preserved	A	NA		2.4	Y	Absent		PA-8260HLW(14)
L2236590-09B	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236590
Report Date: 07/15/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236590-09C	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-09D	Plastic 2oz unpreserved for TS	A	NA		2.4	Y	Absent		TS(7)
L2236590-09E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		PB-TI(180)
L2236590-09F	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		PA-PAH(14)
L2236590-10A	Vial MeOH preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-10B	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-10C	Vial water preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-10D	Plastic 2oz unpreserved for TS	B	NA		5.8	Y	Absent		TS(7)
L2236590-10E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PB-TI(180)
L2236590-10F	Glass 120ml/4oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-11A	Vial MeOH preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-11B	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-11C	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-11D	Plastic 2oz unpreserved for TS	B	NA		5.8	Y	Absent		TS(7)
L2236590-11E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PB-TI(180)
L2236590-11F	Glass 120ml/4oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-12A	Vial MeOH preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-12B	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-12C	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-12D	Plastic 2oz unpreserved for TS	B	NA		5.8	Y	Absent		TS(7)
L2236590-12E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PB-TI(180)
L2236590-12F	Glass 120ml/4oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-13A	Vial MeOH preserved	A	NA		2.4	Y	Absent		PA-8260HLW(14)
L2236590-13B	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-13C	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-13D	Plastic 2oz unpreserved for TS	A	NA		2.4	Y	Absent		TS(7)
L2236590-13E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		PB-TI(180)
L2236590-13F	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		PA-PAH(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236590-14A	Vial MeOH preserved	A	NA		2.4	Y	Absent		PA-8260HLW(14)
L2236590-14B	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-14C	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-14D	Plastic 2oz unpreserved for TS	A	NA		2.4	Y	Absent		TS(7)
L2236590-14E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		PB-TI(180)
L2236590-14F	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		PA-PAH(14)
L2236590-15A	Vial MeOH preserved	A	NA		2.4	Y	Absent		PA-8260HLW(14)
L2236590-15B	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-15C	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-15D	Plastic 2oz unpreserved for TS	A	NA		2.4	Y	Absent		TS(7)
L2236590-15E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		PB-TI(180)
L2236590-15F	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		PA-PAH(14)
L2236590-16A	Vial MeOH preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-16B	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-16C	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-16D	Plastic 2oz unpreserved for TS	B	NA		5.8	Y	Absent		TS(7)
L2236590-16E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PB-TI(180)
L2236590-16F	Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-16G	Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-17A	Vial MeOH preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-17B	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 13:43	PA-8260HLW(14)
L2236590-17C	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-17D	Plastic 2oz unpreserved for TS	B	NA		5.8	Y	Absent		TS(7)
L2236590-17E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PB-TI(180)
L2236590-17F	Glass 120ml/4oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-18A	Vial HCl preserved	A	NA		2.4	Y	Absent		8011(14),PA-8260(14)
L2236590-18B	Vial HCl preserved	A	NA		2.4	Y	Absent		8011(14),PA-8260(14)
L2236590-18C	Vial HCl preserved	A	NA		2.4	Y	Absent		8011(14),PA-8260(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236590
Report Date: 07/15/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236590-18D	Plastic 250ml HNO3 preserved	A	<2	<2	2.4	Y	Absent		PB-6020T-PPB(180)
L2236590-18E	Amber 250ml unpreserved	A	7	7	2.4	Y	Absent		PA-PAHSIM-LVI(7)
L2236590-18F	Amber 250ml unpreserved	A	7	7	2.4	Y	Absent		PA-PAHSIM-LVI(7)
L2236590-19A	Vial HCl preserved	A	NA		2.4	Y	Absent		8011(14),PA-8260(14)
L2236590-19B	Vial HCl preserved	A	NA		2.4	Y	Absent		8011(14),PA-8260(14)
L2236590-19C	Vial HCl preserved	A	NA		2.4	Y	Absent		8011(14),PA-8260(14)
L2236590-19D	Plastic 250ml HNO3 preserved	A	<2	<2	2.4	Y	Absent		PB-6020T-PPB(180)
L2236590-19E	Amber 250ml unpreserved	A	7	7	2.4	Y	Absent		PA-PAHSIM-LVI(7)
L2236590-19F	Amber 250ml unpreserved	A	7	7	2.4	Y	Absent		PA-PAHSIM-LVI(7)
L2236590-20A	Vial HCl preserved	B	NA		5.8	Y	Absent		8011(14),PA-8260(14)
L2236590-20B	Vial HCl preserved	B	NA		5.8	Y	Absent		8011(14),PA-8260(14)
L2236590-20C	Vial Na2S2O3 preserved	NA	NA			Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236590
Project Number:	200.00135.006	**Report Date:**	07/15/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236590
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Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236590
Project Number:	200.00135.006	**Report Date:**	07/15/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

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Date Rec'd in Lab: 7/9/22

ALPHA Job #: L2236590

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program: Criteria

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Shortlist 1-5												Sample Specific Comments
36590-01	PB-840-01-SS01	7/8	0945	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
02	PB-840-02-SS01		0950			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
03	PB-840-03-SS01		1000			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
04	PB-840-04-SS01		1010			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
05	PB-840-05-SS01		1020			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
06	PB-840-06-SS01		1030			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
07	PB-840-07-SS01		1040			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
08	PB-840-08-SS01		1120			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
09	PB-840-09-SS01		1130			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
10	PB-840-10-SS01		1140			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
	Container Type					-	-	G	-	-	-	-	-	-	-	-	-	
	Preservative					-	-	-	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
	7/8 1540		7/8/22 1540
	7/8/22 1810		7/8/22 1810
	7/8/22 2107		7/8/22 2100
of AAL	7/9/22 0050	of AAL	7/8/22, 2336

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-07(LN-I) (rev. 3-MAY-12)

2

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 7/9/22

ALPHA Job #: L2236590

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com
☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SHORTLIST 1-5
VOC PORTION OF SL 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36590-11	PB-840-11-5501	7/8	1200	S	TS	
12	PB-840-12-5501		1210	S		
13	PB-840-13-5501		1220	S		
14	PB-840-14-5501		1230	S		
15	PB-840-15-5501		1240	S		
16	PB-840-16-5501		1250	S		
17	DUP-38		-	S		
18	FB-070822-3		1300	W		
19	FB-070822-4		1310	W		
20	TB-070822	↓	-	W	↓	

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/8/22 1540		7/8/22 1540
	7/8/22 1600		7/8 1600
	7/8/22 2100		7/8/22 2100
ALL AAL	7/9/22 0850	AAL	7/9/22 2310

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

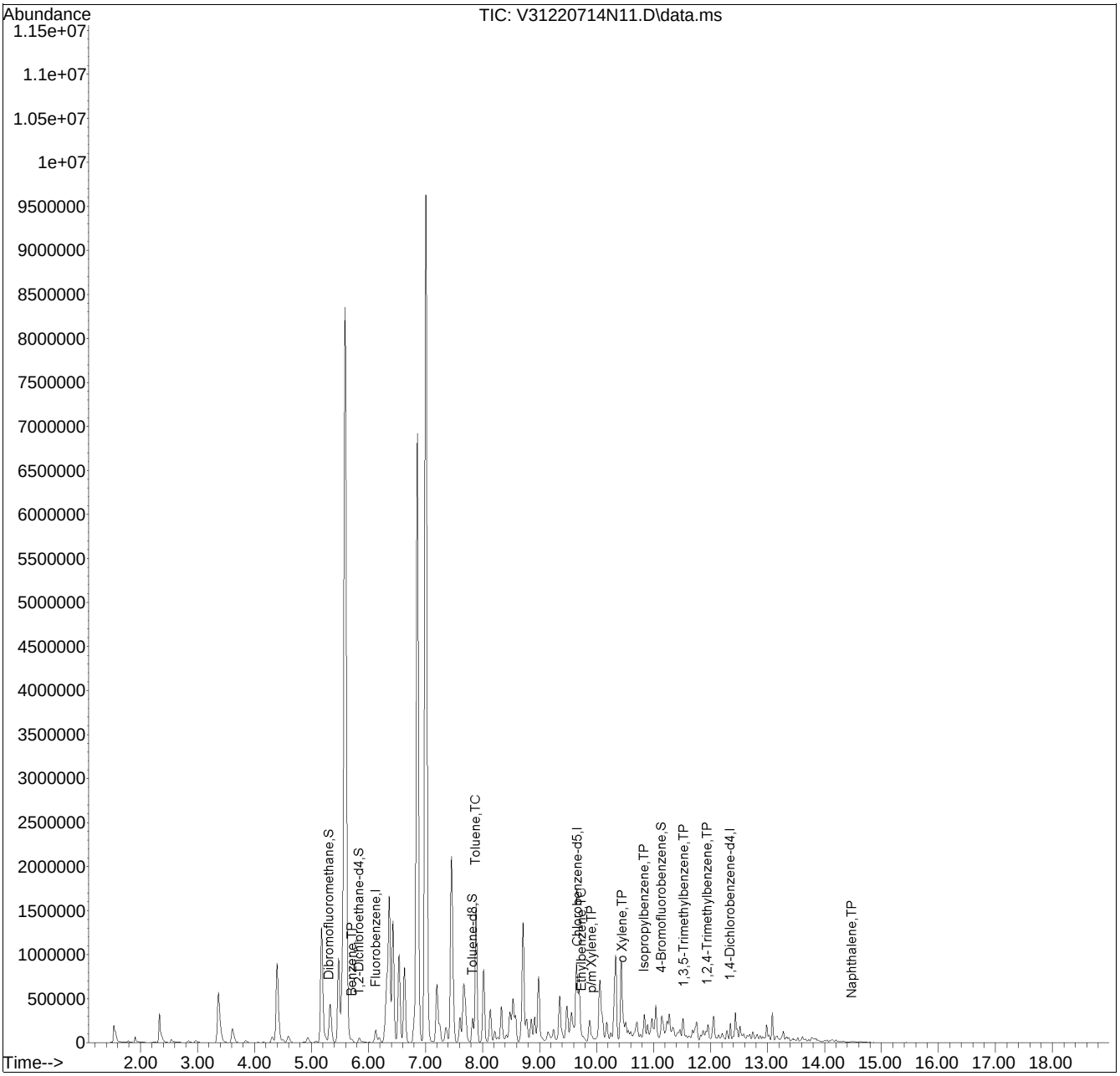
FORM NO. 01-01(R-M) (rev. 3-MAR-12)

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA131\2022\220714N\
Data File : V31220714N11.D
Acq On : 14 Jul 2022 10:51 pm
Operator : VOA131:MKS
Sample : l2236590-01,31,3.76,5,,b,r2f
Misc : WG1663272,ICAL19050
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 15 08:04:31 2022
Quant Method : I:\VOLATILES\VOA131\2022\220714N\V31_220525N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue May 31 11:11:48 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list14N\V31220714N01.D•



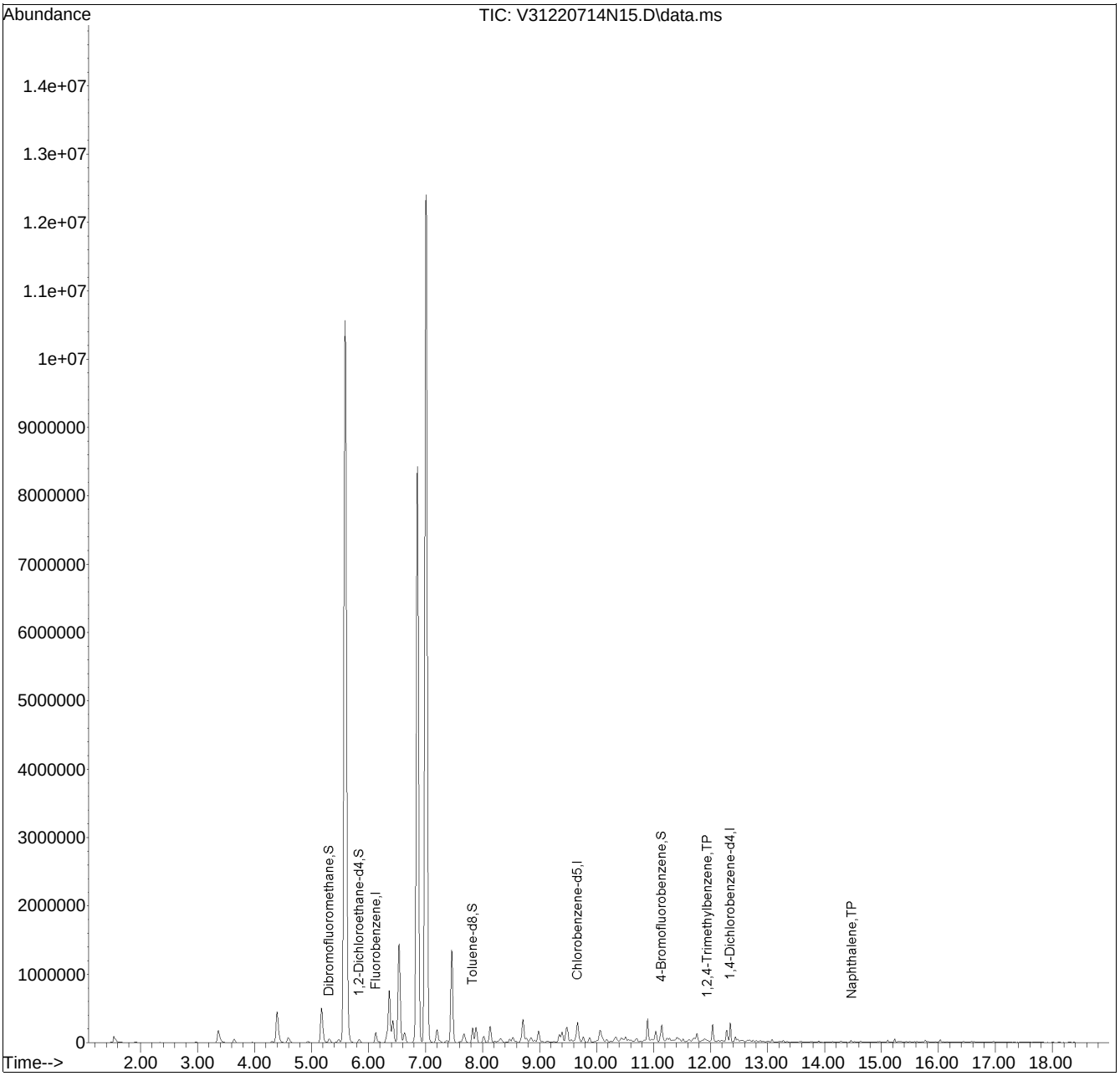
V31_220525N_8260.m Fri Jul 15 08:52:06 2022 Page: 2

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA131\2022\220714N\
Data File : V31220714N15.D
Acq On : 15 Jul 2022 12:22 am
Operator : VOA131:MKS
Sample : l2236590-15,31,4.91,5,,b,r2f
Misc : WG1663272,ICAL19050
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 15 08:05:32 2022
Quant Method : I:\VOLATILES\VOA131\2022\220714N\V31_220525N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue May 31 11:11:48 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list14N\V31220714N01.D•



ANALYTICAL REPORT

Lab Number:	L2236779
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/18/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2236779-01	PB-848-01-SS01	SOIL	PHILADELPHIA, PA	07/11/22 09:00	07/11/22
L2236779-02	PB-848-02-SS01	SOIL	PHILADELPHIA, PA	07/11/22 09:10	07/11/22
L2236779-03	PB-848-03-SS01	SOIL	PHILADELPHIA, PA	07/11/22 09:20	07/11/22
L2236779-04	PB-848-04-SS01	SOIL	PHILADELPHIA, PA	07/11/22 09:30	07/11/22
L2236779-05	PB-848-05-SS01	SOIL	PHILADELPHIA, PA	07/11/22 09:40	07/11/22
L2236779-06	PB-848-06-SS01	SOIL	PHILADELPHIA, PA	07/11/22 09:50	07/11/22
L2236779-07	PB-848-07-SS01	SOIL	PHILADELPHIA, PA	07/11/22 10:00	07/11/22
L2236779-08	PB-848-08-SS01	SOIL	PHILADELPHIA, PA	07/11/22 10:10	07/11/22
L2236779-09	PB-848-09-SS01	SOIL	PHILADELPHIA, PA	07/11/22 10:20	07/11/22
L2236779-10	PB-848-10-SS01	SOIL	PHILADELPHIA, PA	07/11/22 10:30	07/11/22
L2236779-11	PB-848-11-SS01	SOIL	PHILADELPHIA, PA	07/11/22 10:40	07/11/22
L2236779-12	PB-848-12-SS01	SOIL	PHILADELPHIA, PA	07/11/22 10:50	07/11/22
L2236779-13	PB-848-13-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:00	07/11/22
L2236779-14	PB-848-14-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:10	07/11/22
L2236779-15	PB-848-15-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:20	07/11/22
L2236779-16	PB-848-16-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:30	07/11/22
L2236779-17	PB-848-17-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:40	07/11/22
L2236779-18	PB-848-18-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:50	07/11/22
L2236779-19	FB-071122-1	WATER	PHILADELPHIA, PA	07/11/22 14:00	07/11/22
L2236779-20	FB-071122-2	WATER	PHILADELPHIA, PA	07/11/22 14:05	07/11/22
L2236779-21	DUP-39	SOIL	PHILADELPHIA, PA	07/11/22 00:00	07/11/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236779
Project Number:	200.00135.006	**Report Date:**	07/18/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236779
Project Number:	200.00135.006	**Report Date:**	07/18/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2236779-04D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

L2236779-04D: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (144%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236779-06: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (211%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236779-07: The sample was analyzed as a High Level Methanol based upon screen results. The sample was then analyzed as a Low Level in order to achieve lower reporting limits. The results of both analyses are reported. Differences were noted between the results of the analyses which have been attributed to vial discrepancies.

L2236779-07(Low): The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (138%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236779-09: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (139%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236779-11: The sample was analyzed as a High Level Methanol based upon screen results. The sample was then analyzed as a Low Level in order to achieve lower reporting limits. The results of both analyses are reported. Differences were noted between the results of the analyses which have been attributed to vial discrepancies.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236779
Project Number:	200.00135.006	**Report Date:**	07/18/22

Case Narrative (continued)

L2236779-11: The internal standard (IS) response(s) for fluorobenzene (223%) was above the acceptance criteria due to obvious interferences. A copy of the chromatogram is included as an attachment to this report. Since the IS response was above method criteria all associated compounds are considered to have a potentially low bias.
L2236779-11: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (199%); however, low-level re-analysis was not performed due to obvious interferences. A copy of the chromatogram is included as an attachment to this report. A high-level analysis was performed, and those results are also reported.
L2236779-11: The surrogate recovery is outside the method acceptance criteria for dibromofluoromethane (56%) due to interference with the Internal Standard.
L2236779-13: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of non-target compounds in the sample.
L2236779-13: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (153%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.
L2236779-15: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (138%); due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.
L2236779-18: The internal standard (IS) response(s) for fluorobenzene (422%) and the surrogate recoveries for dibromofluoromethane (27%) and 4-bromofluorobenzene (262%) were outside the acceptance criteria due to obvious interferences. A copy of the chromatogram is included as an attachment to this report. Since the IS response was above method criteria, all associated compounds are considered to have a potentially low bias. A high-level analysis was performed, and those results are also reported.

Total Metals
L2236779-02, -03, -05, -07, -08, -10 and -18: The sample has an elevated detection limit for lead due to the dilution required by matrix interferences encountered during analysis.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236779
Project Number:	200.00135.006	**Report Date:**	07/18/22

Case Narrative (continued)

The WG1661857-3 MS recovery, performed on L2236779-01, is outside the acceptance criteria for lead (74%). A post digestion spike was performed and yielded an unacceptable recovery for lead (69%). The serial dilution recovery was not applicable; therefore, this element fails the matrix test and the result reported in the native sample should be considered estimated.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Caitlin Walukevich

Title: Technical Director/Representative

Date: 07/18/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-01
Client ID: PB-848-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 09:41
Analyst: MKS
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	0.0010		mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00063	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	0.0010	J	mg/kg	0.0023	0.00065	1
o-Xylene	0.00055	J	mg/kg	0.0012	0.00034	1
Xylenes, Total	0.0016	J	mg/kg	0.0012	0.00034	1
Isopropylbenzene	0.00014	J	mg/kg	0.0012	0.00012	1
1,3,5-Trimethylbenzene	0.00026	J	mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-02
Client ID: PB-848-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 11:06
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00047	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00094	0.00024	1
Toluene	ND		mg/kg	0.00094	0.00051	1
1,2-Dibromoethane	ND		mg/kg	0.00047	0.00027	1
Ethylbenzene	ND		mg/kg	0.00094	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00052	1
o-Xylene	ND		mg/kg	0.00094	0.00027	1
Xylenes, Total	ND		mg/kg	0.00094	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00094	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-03
Client ID: PB-848-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 09:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 11:35
Analyst: JC
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-04 D
Client ID: PB-848-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 12:04
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.51	0.051	4
Benzene	1.8		mg/kg	0.13	0.042	4
1,2-Dichloroethane	ND		mg/kg	0.25	0.065	4
Toluene	ND		mg/kg	0.25	0.14	4
1,2-Dibromoethane	ND		mg/kg	0.13	0.074	4
Ethylbenzene	0.90		mg/kg	0.25	0.036	4
p/m-Xylene	3.5		mg/kg	0.51	0.14	4
o-Xylene	0.32		mg/kg	0.25	0.074	4
Xylenes, Total	3.8		mg/kg	0.25	0.074	4
Isopropylbenzene	0.46		mg/kg	0.25	0.028	4
1,3,5-Trimethylbenzene	2.7		mg/kg	0.51	0.049	4
1,2,4-Trimethylbenzene	4.3		mg/kg	0.51	0.085	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	**144**	Q	70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-05
Client ID: PB-848-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 09:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 12:33
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00074	J	mg/kg	0.0022	0.00023	1
Benzene	ND		mg/kg	0.00056	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00061	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00063	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-06
Client ID: PB-848-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 09:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 15:28
Analyst: LAC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.013	1
Benzene	ND		mg/kg	0.032	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.064	0.016	1
Toluene	ND		mg/kg	0.064	0.035	1
1,2-Dibromoethane	ND		mg/kg	0.032	0.019	1
Ethylbenzene	1.0		mg/kg	0.064	0.0090	1
p/m-Xylene	ND		mg/kg	0.13	0.036	1
o-Xylene	ND		mg/kg	0.064	0.019	1
Xylenes, Total	ND		mg/kg	0.064	0.019	1
Isopropylbenzene	3.0		mg/kg	0.064	0.0070	1
1,3,5-Trimethylbenzene	0.16		mg/kg	0.13	0.012	1
1,2,4-Trimethylbenzene	31.	E	mg/kg	0.13	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	**211**	Q	70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-06 D
Client ID: PB-848-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 13:02
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,4-Trimethylbenzene	35.		mg/kg	1.3	0.21	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	125		70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-07
Client ID: PB-848-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 15:55
Analyst: LAC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.014	1
Benzene	0.14		mg/kg	0.034	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.067	0.017	1
Toluene	0.087		mg/kg	0.067	0.036	1
1,2-Dibromoethane	ND		mg/kg	0.034	0.020	1
Ethylbenzene	1.6		mg/kg	0.067	0.0095	1
p/m-Xylene	0.53		mg/kg	0.13	0.038	1
o-Xylene	0.032	J	mg/kg	0.067	0.020	1
Xylenes, Total	0.56	J	mg/kg	0.067	0.020	1
Isopropylbenzene	1.1		mg/kg	0.067	0.0073	1
1,3,5-Trimethylbenzene	1.0		mg/kg	0.13	0.013	1
1,2,4-Trimethylbenzene	2.2		mg/kg	0.13	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-07
Client ID: PB-848-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 09:20
Analyst: MKS
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00055	J	mg/kg	0.0018	0.00018	1
Benzene	0.016		mg/kg	0.00044	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00089	0.00023	1
Toluene	0.0027		mg/kg	0.00089	0.00048	1
1,2-Dibromoethane	ND		mg/kg	0.00044	0.00026	1
Ethylbenzene	0.19		mg/kg	0.00089	0.00012	1
p/m-Xylene	0.033		mg/kg	0.0018	0.00050	1
o-Xylene	0.0021		mg/kg	0.00089	0.00026	1
Xylenes, Total	0.035		mg/kg	0.00089	0.00026	1
Isopropylbenzene	0.11		mg/kg	0.00089	0.00009	1
1,3,5-Trimethylbenzene	0.089		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	0.19		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	75		70-130
Toluene-d8	124		70-130
4-Bromofluorobenzene	**138**	Q	70-130
Dibromofluoromethane	85		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-08
Client ID: PB-848-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 14:10
Analyst: LAC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	0.00030	J	mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00092	0.00024	1
Toluene	ND		mg/kg	0.00092	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	0.0067		mg/kg	0.00092	0.00013	1
p/m-Xylene	0.00093	J	mg/kg	0.0018	0.00052	1
o-Xylene	0.00040	J	mg/kg	0.00092	0.00027	1
Xylenes, Total	0.0013	J	mg/kg	0.00092	0.00027	1
Isopropylbenzene	0.0099		mg/kg	0.00092	0.00010	1
1,3,5-Trimethylbenzene	0.0047		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	0.037		mg/kg	0.0018	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-09
Client ID: PB-848-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 14:36
Analyst: LAC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	0.00022	J	mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	0.00046	J	mg/kg	0.00098	0.00014	1
p/m-Xylene	0.00064	J	mg/kg	0.0020	0.00055	1
o-Xylene	0.00029	J	mg/kg	0.00098	0.00029	1
Xylenes, Total	0.00093	J	mg/kg	0.00098	0.00029	1
Isopropylbenzene	0.0011		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	0.00028	J	mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	0.0013	J	mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	**139**	Q	70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-10
Client ID: PB-848-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 14:59
Analyst: JC
Percent Solids: 72%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0025	0.00025	1
Benzene	0.00052	J	mg/kg	0.00063	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00032	1
Toluene	ND		mg/kg	0.0012	0.00068	1
1,2-Dibromoethane	ND		mg/kg	0.00063	0.00037	1
Ethylbenzene	0.0024		mg/kg	0.0012	0.00018	1
p/m-Xylene	ND		mg/kg	0.0025	0.00070	1
o-Xylene	ND		mg/kg	0.0012	0.00037	1
Xylenes, Total	ND		mg/kg	0.0012	0.00037	1
Isopropylbenzene	0.0066		mg/kg	0.0012	0.00014	1
1,3,5-Trimethylbenzene	0.00047	J	mg/kg	0.0025	0.00024	1
1,2,4-Trimethylbenzene	0.00081	J	mg/kg	0.0025	0.00042	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-11
Client ID: PB-848-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 15:29
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.14	0.014	1
Benzene	0.87		mg/kg	0.034	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.068	0.017	1
Toluene	0.12		mg/kg	0.068	0.037	1
1,2-Dibromoethane	ND		mg/kg	0.034	0.020	1
Ethylbenzene	0.16		mg/kg	0.068	0.0095	1
p/m-Xylene	0.36		mg/kg	0.14	0.038	1
o-Xylene	0.034	J	mg/kg	0.068	0.020	1
Xylenes, Total	0.39	J	mg/kg	0.068	0.020	1
Isopropylbenzene	0.29		mg/kg	0.068	0.0074	1
1,3,5-Trimethylbenzene	0.076	J	mg/kg	0.14	0.013	1
1,2,4-Trimethylbenzene	0.12	J	mg/kg	0.14	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	125		70-130
Dibromofluoromethane	87		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-11
Client ID: PB-848-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 15:02
Analyst: LAC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0027	0.00027	1
Benzene	0.0039		mg/kg	0.00068	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0014	0.00035	1
Toluene	0.0059		mg/kg	0.0014	0.00074	1
1,2-Dibromoethane	ND		mg/kg	0.00068	0.00040	1
Ethylbenzene	0.0015		mg/kg	0.0014	0.00019	1
p/m-Xylene	0.018		mg/kg	0.0027	0.00076	1
o-Xylene	0.0043		mg/kg	0.0014	0.00039	1
Xylenes, Total	0.022		mg/kg	0.0014	0.00039	1
Isopropylbenzene	0.14		mg/kg	0.0014	0.00015	1
1,3,5-Trimethylbenzene	0.0018	J	mg/kg	0.0027	0.00026	1
1,2,4-Trimethylbenzene	0.0038		mg/kg	0.0027	0.00045	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	123		70-130
4-Bromofluorobenzene	**199**	Q	70-130
Dibromofluoromethane	**56**	Q	70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-12
Client ID: PB-848-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 13:43
Analyst: LAC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-13
Client ID: PB-848-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 16:28
Analyst: JC
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.14	0.014	1
Benzene	ND		mg/kg	0.036	0.012	1
1,2-Dichloroethane	ND		mg/kg	0.072	0.018	1
Toluene	0.039	J	mg/kg	0.072	0.039	1
1,2-Dibromoethane	ND		mg/kg	0.036	0.021	1
Ethylbenzene	0.018	J	mg/kg	0.072	0.010	1
p/m-Xylene	ND		mg/kg	0.14	0.040	1
o-Xylene	ND		mg/kg	0.072	0.021	1
Xylenes, Total	ND		mg/kg	0.072	0.021	1
Isopropylbenzene	0.010	J	mg/kg	0.072	0.0078	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.14	0.014	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.14	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	114		70-130
4-Bromofluorobenzene	**153**	Q	70-130
Dibromofluoromethane	89		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-14
Client ID: PB-848-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 16:56
Analyst: JC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	0.00019	J	mg/kg	0.00056	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00061	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	0.00017	J	mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00063	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	0.00079	J	mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-15
Client ID: PB-848-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 16:21
Analyst: LAC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.11	0.011	1
Benzene	1.1		mg/kg	0.028	0.0092	1
1,2-Dichloroethane	ND		mg/kg	0.055	0.014	1
Toluene	0.078		mg/kg	0.055	0.030	1
1,2-Dibromoethane	ND		mg/kg	0.028	0.016	1
Ethylbenzene	16.		mg/kg	0.055	0.0078	1
p/m-Xylene	34.	E	mg/kg	0.11	0.031	1
o-Xylene	0.038	J	mg/kg	0.055	0.016	1
Isopropylbenzene	2.4		mg/kg	0.055	0.0060	1
1,3,5-Trimethylbenzene	4.0		mg/kg	0.11	0.011	1
1,2,4-Trimethylbenzene	7.7		mg/kg	0.11	0.018	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	115		70-130
4-Bromofluorobenzene	**138**	Q	70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-15 D
Client ID: PB-848-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 17:25
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
p/m-Xylene	38.		mg/kg	2.2	0.62	20
Xylenes, Total	38.	J	mg/kg	0.055	0.016	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	114		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	91		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-16
Client ID: PB-848-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 17:54
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00060	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00066	1
1,2-Dibromoethane	ND		mg/kg	0.00060	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00068	1
o-Xylene	ND		mg/kg	0.0012	0.00035	1
Xylenes, Total	ND		mg/kg	0.0012	0.00035	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00040	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-17
Client ID: PB-848-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 18:22
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0031	0.00031	1
Benzene	ND		mg/kg	0.00077	0.00026	1
1,2-Dichloroethane	ND		mg/kg	0.0015	0.00040	1
Toluene	ND		mg/kg	0.0015	0.00084	1
1,2-Dibromoethane	ND		mg/kg	0.00077	0.00045	1
Ethylbenzene	ND		mg/kg	0.0015	0.00022	1
p/m-Xylene	ND		mg/kg	0.0031	0.00087	1
o-Xylene	ND		mg/kg	0.0015	0.00045	1
Xylenes, Total	ND		mg/kg	0.0015	0.00045	1
Isopropylbenzene	ND		mg/kg	0.0015	0.00017	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0031	0.00030	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0031	0.00052	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-18
Client ID: PB-848-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 13:17
Analyst: LAC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	0.00091		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	0.0043		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	0.0057		mg/kg	0.0010	0.00014	1
p/m-Xylene	0.026		mg/kg	0.0020	0.00057	1
o-Xylene	0.0084		mg/kg	0.0010	0.00030	1
Xylenes, Total	0.034		mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.037		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	0.0051		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	0.030		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	71		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	**262**	Q	70-130
Dibromofluoromethane	**27**	Q	70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-18
Client ID: PB-848-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 10:54
Analyst: MKS
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.11	0.011	1
Benzene	0.010	J	mg/kg	0.027	0.0089	1
1,2-Dichloroethane	ND		mg/kg	0.054	0.014	1
Toluene	ND		mg/kg	0.054	0.029	1
1,2-Dibromoethane	ND		mg/kg	0.027	0.016	1
Ethylbenzene	0.017	J	mg/kg	0.054	0.0076	1
p/m-Xylene	0.056	J	mg/kg	0.11	0.030	1
o-Xylene	ND		mg/kg	0.054	0.016	1
Xylenes, Total	0.056	J	mg/kg	0.054	0.016	1
Isopropylbenzene	0.060		mg/kg	0.054	0.0058	1
1,3,5-Trimethylbenzene	0.011	J	mg/kg	0.11	0.010	1
1,2,4-Trimethylbenzene	0.058	J	mg/kg	0.11	0.018	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	76		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	87		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-19
Client ID: FB-071122-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 16:46
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-19
Client ID: FB-071122-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 14:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/13/22 21:45
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	121		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	130		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-20
Client ID: FB-071122-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:05
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 16:53
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-20
Client ID: FB-071122-2
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 14:05
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/13/22 22:11
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	124		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	130		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-21
Client ID: DUP-39
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 12:50
Analyst: LAC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00057	J	mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00098	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00028	1
Xylenes, Total	ND		mg/kg	0.00098	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/13/22 14:45
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 19-20 Batch: WG1662273-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/14/22 09:12
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 04,06,11,13,15 Batch: WG1662882-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/13/22 17:26
Analyst: TMS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 19-20 Batch: WG1663309-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	119		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/14/22 09:12
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-03,05,10,14,16-17 Batch: WG1663423-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 11:31
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 06-07,15 Batch: WG1663910-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 11:31
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 08-09,11-12,18,21 Batch: WG1663911-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/18/22 08:56
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 07 Batch: WG1664169-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	86		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/18/22 08:56
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 18 Batch: WG1664170-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	86		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	99		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236779

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 19-20 Batch: WG1662273-2								
1,2-Dibromoethane	110		-		80-120	-		20	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 04,06,11,13,15 Batch: WG1662882-3 WG1662882-4								
Methyl tert butyl ether	118		118		66-130	0		30
Benzene	106		109		70-130	3		30
1,2-Dichloroethane	100		101		70-130	1		30
Toluene	108		108		70-130	0		30
1,2-Dibromoethane	108		108		70-130	0		30
Ethylbenzene	106		107		70-130	1		30
p/m-Xylene	106		107		70-130	1		30
o-Xylene	106		108		70-130	2		30
Isopropylbenzene	113		112		70-130	1		30
1,3,5-Trimethylbenzene	109		108		70-130	1		30
1,2,4-Trimethylbenzene	110		109		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	103		102		70-130
4-Bromofluorobenzene	109		107		70-130
Dibromofluoromethane	92		92		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236779

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 19-20 Batch: WG1663309-3 WG1663309-4								
Methyl tert butyl ether	95		97		63-130	2		20
Benzene	98		100		70-130	2		20
1,2-Dichloroethane	100		100		70-130	0		20
Toluene	95		96		70-130	1		20
Ethylbenzene	94		96		70-130	2		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
Isopropylbenzene	88		92		70-130	4		20
1,3,5-Trimethylbenzene	91		95		64-130	4		20
1,2,4-Trimethylbenzene	90		94		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		105		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	102		94		70-130
Dibromofluoromethane	102		104		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-03,05,10,14,16-17 Batch: WG1663423-3 WG1663423-4								
Methyl tert butyl ether	118		118		66-130	0		30
Benzene	106		109		70-130	3		30
1,2-Dichloroethane	100		101		70-130	1		30
Toluene	108		108		70-130	0		30
1,2-Dibromoethane	108		108		70-130	0		30
Ethylbenzene	106		107		70-130	1		30
p/m-Xylene	106		107		70-130	1		30
o-Xylene	106		108		70-130	2		30
Isopropylbenzene	113		112		70-130	1		30
1,3,5-Trimethylbenzene	109		108		70-130	1		30
1,2,4-Trimethylbenzene	110		109		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	103		102		70-130
4-Bromofluorobenzene	109		107		70-130
Dibromofluoromethane	91		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 06-07,15 Batch: WG1663910-3 WG1663910-4								
Methyl tert butyl ether	84		81		66-130	4		30
Benzene	84		79		70-130	6		30
1,2-Dichloroethane	84		81		70-130	4		30
Toluene	84		79		70-130	6		30
1,2-Dibromoethane	92		87		70-130	6		30
Ethylbenzene	84		79		70-130	6		30
p/m-Xylene	89		83		70-130	7		30
o-Xylene	87		83		70-130	5		30
Isopropylbenzene	82		78		70-130	5		30
1,3,5-Trimethylbenzene	82		79		70-130	4		30
1,2,4-Trimethylbenzene	81		78		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		99		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	83		84		70-130
Dibromofluoromethane	106		103		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236779

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 08-09,11-12,18,21 Batch: WG1663911-3 WG1663911-4								
Methyl tert butyl ether	84		81		66-130	4		30
Benzene	84		79		70-130	6		30
1,2-Dichloroethane	84		81		70-130	4		30
Toluene	84		79		70-130	6		30
1,2-Dibromoethane	92		87		70-130	6		30
Ethylbenzene	84		79		70-130	6		30
p/m-Xylene	89		83		70-130	7		30
o-Xylene	87		83		70-130	5		30
Isopropylbenzene	82		78		70-130	5		30
1,3,5-Trimethylbenzene	82		79		70-130	4		30
1,2,4-Trimethylbenzene	81		78		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		99		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	83		83		70-130
Dibromofluoromethane	106		103		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 07 Batch: WG1664169-3 WG1664169-4								
Methyl tert butyl ether	103		90		66-130	13		30
Benzene	91		87		70-130	4		30
1,2-Dichloroethane	**69**	Q	**69**	Q	70-130	0		30
Toluene	90		83		70-130	8		30
1,2-Dibromoethane	94		90		70-130	4		30
Ethylbenzene	88		83		70-130	6		30
p/m-Xylene	91		88		70-130	3		30
o-Xylene	90		87		70-130	3		30
Isopropylbenzene	89		81		70-130	9		30
1,3,5-Trimethylbenzene	88		81		70-130	8		30
1,2,4-Trimethylbenzene	88		82		70-130	7		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	78		78		70-130
Toluene-d8	98		97		70-130
4-Bromofluorobenzene	92		92		70-130
Dibromofluoromethane	93		91		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 18 Batch: WG1664170-3 WG1664170-4								
Methyl tert butyl ether	103		90		66-130	13		30
Benzene	91		87		70-130	4		30
1,2-Dichloroethane	**69**	Q	**69**	Q	70-130	0		30
Toluene	90		83		70-130	8		30
1,2-Dibromoethane	94		90		70-130	4		30
Ethylbenzene	88		83		70-130	6		30
p/m-Xylene	91		88		70-130	3		30
o-Xylene	90		87		70-130	3		30
Isopropylbenzene	89		81		70-130	9		30
1,3,5-Trimethylbenzene	88		81		70-130	8		30
1,2,4-Trimethylbenzene	88		82		70-130	7		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	78		78		70-130
Toluene-d8	98		97		70-130
4-Bromofluorobenzene	92		92		70-130
Dibromofluoromethane	93		91		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-01
Client ID: PB-848-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 12:16
Analyst: CMM
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	93		23-120
2-Fluorobiphenyl	90		30-120
4-Terphenyl-d14	100		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-02
Client ID: PB-848-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 12:40
Analyst: CMM
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.037	1
Pyrene	0.029	J	mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	71		30-120
4-Terphenyl-d14	80		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-03
Client ID: PB-848-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 13:04
Analyst: CMM
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	0.024	J	mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-04
Client ID: PB-848-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 13:29
Analyst: CMM
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	1.4		mg/kg	0.20	0.025	1
Fluorene	2.3		mg/kg	0.20	0.020	1
Phenanthrene	1.9		mg/kg	0.12	0.025	1
Anthracene	0.29		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	63		23-120
2-Fluorobiphenyl	54		30-120
4-Terphenyl-d14	59		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-05
Client ID: PB-848-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 13:53
Analyst: CMM
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.034	J	mg/kg	0.20	0.024	1
Fluorene	0.069	J	mg/kg	0.20	0.019	1
Phenanthrene	0.054	J	mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	76		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-06
Client ID: PB-848-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 14:17
Analyst: CMM
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	1.7		mg/kg	0.20	0.025	1
Fluorene	0.14	J	mg/kg	0.20	0.020	1
Phenanthrene	0.15		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	78		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-07
Client ID: PB-848-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 14:41
Analyst: CMM
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.26		mg/kg	0.20	0.024	1
Fluorene	0.089	J	mg/kg	0.20	0.019	1
Phenanthrene	0.059	J	mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.025	J	mg/kg	0.12	0.022	1
Chrysene	0.028	J	mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.049	J	mg/kg	0.12	0.033	1
Benzo(a)pyrene	0.065	J	mg/kg	0.16	0.048	1
Benzo(ghi)perylene	0.064	J	mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	91		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	67		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-08
Client ID: PB-848-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 15:05
Analyst: CMM
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	77		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-09
Client ID: PB-848-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 15:30
Analyst: CMM
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	0.034	J	mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	76		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-10
Client ID: PB-848-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 15:54
Analyst: CMM
Percent Solids: 72%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.23	0.028	1
Fluorene	ND		mg/kg	0.23	0.022	1
Phenanthrene	ND		mg/kg	0.14	0.028	1
Anthracene	ND		mg/kg	0.14	0.044	1
Pyrene	ND		mg/kg	0.14	0.022	1
Benzo(a)anthracene	ND		mg/kg	0.14	0.025	1
Chrysene	ND		mg/kg	0.14	0.024	1
Benzo(b)fluoranthene	ND		mg/kg	0.14	0.038	1
Benzo(a)pyrene	ND		mg/kg	0.18	0.055	1
Benzo(ghi)perylene	ND		mg/kg	0.18	0.027	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	74		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-11
Client ID: PB-848-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 16:18
Analyst: CMM
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	0.25		mg/kg	0.19	0.018	1
Phenanthrene	0.35		mg/kg	0.11	0.023	1
Anthracene	0.081	J	mg/kg	0.11	0.037	1
Pyrene	0.058	J	mg/kg	0.11	0.019	1
Benzo(a)anthracene	0.029	J	mg/kg	0.11	0.021	1
Chrysene	0.034	J	mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	0.037	J	mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	0.039	J	mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	118		23-120
2-Fluorobiphenyl	83		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-12
Client ID: PB-848-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 16:42
Analyst: CMM
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.043	J	mg/kg	0.21	0.025	1
Fluorene	0.13	J	mg/kg	0.21	0.020	1
Phenanthrene	0.68		mg/kg	0.12	0.025	1
Anthracene	0.19		mg/kg	0.12	0.040	1
Pyrene	0.51		mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.33		mg/kg	0.12	0.023	1
Chrysene	0.30		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	0.36		mg/kg	0.12	0.035	1
Benzo(a)pyrene	0.30		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	0.11	J	mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	69		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-13
Client ID: PB-848-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 17:07
Analyst: CMM
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 23:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	0.022	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.035	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	68		30-120
4-Terphenyl-d14	71		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-14
Client ID: PB-848-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 17:31
Analyst: CMM
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 23:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.21	0.025	1
Fluorene	ND		mg/kg	0.21	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.035	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	53		23-120
2-Fluorobiphenyl	60		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-15
Client ID: PB-848-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 17:55
Analyst: CMM
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 23:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	81		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-16
Client ID: PB-848-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 18:19
Analyst: CMM
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 23:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	67		30-120
4-Terphenyl-d14	70		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-17
Client ID: PB-848-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 18:43
Analyst: CMM
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 23:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.026	J	mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	0.34		mg/kg	0.12	0.024	1
Anthracene	0.090	J	mg/kg	0.12	0.038	1
Pyrene	0.79		mg/kg	0.12	0.019	1
Benzo(a)anthracene	4.5		mg/kg	0.12	0.022	1
Chrysene	4.4		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	4.4		mg/kg	0.12	0.033	1
Benzo(a)pyrene	7.2		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	5.2		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	85		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-18
Client ID: PB-848-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 19:08
Analyst: CMM
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 23:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-19
Client ID: FB-071122-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/13/22 12:21
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/12/22 15:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	0.04	J	ug/l	0.05	0.02	1
Anthracene	0.02	J	ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	32		23-120
2-Fluorobiphenyl	28		15-120
4-Terphenyl-d14	**32**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-20
Client ID: FB-071122-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:05
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/13/22 12:38
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/12/22 15:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.05	J	ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	42		23-120
2-Fluorobiphenyl	44		15-120
4-Terphenyl-d14	47		41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-21
Client ID: DUP-39
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 19:32
Analyst: CMM
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 23:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	0.091	J	mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	0.080	J	mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.055	J	mg/kg	0.12	0.022	1
Chrysene	0.048	J	mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.053	J	mg/kg	0.12	0.033	1
Benzo(a)pyrene	0.048	J	mg/kg	0.16	0.048	1
Benzo(ghi)perylene	0.026	J	mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	58		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/13/22 11:32
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/12/22 15:44

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 19-20 Batch: WG1661883-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	0.03	J	ug/l	0.05	0.02
Anthracene	0.02	J	ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	0.03	J	ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	38		23-120
2-Fluorobiphenyl	39		15-120
4-Terphenyl-d14	46		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/13/22 11:03
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-18,21 Batch: WG1662002-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	82		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 19-20 Batch: WG1661883-2 WG1661883-3								
Naphthalene	50		123		40-140	**84**	Q	40
Fluorene	51		125		40-140	**84**	Q	40
Phenanthrene	50		123		40-140	**84**	Q	40
Anthracene	50		123		40-140	**84**	Q	40
Pyrene	51		**129**	Q	26-127	**87**	Q	40
Benzo(a)anthracene	48		123		40-140	**88**	Q	40
Chrysene	49		124		40-140	**87**	Q	40
Benzo(b)fluoranthene	52		138		40-140	**91**	Q	40
Benzo(a)pyrene	49		134		40-140	**93**	Q	40
Benzo(ghi)perylene	52		137		40-140	**90**	Q	40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	24		28		23-120
2-Fluorobiphenyl	25		30		15-120
4-Terphenyl-d14	**26**	Q	**32**	Q	41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236779

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-18,21 Batch: WG1662002-2 WG1662002-3								
Naphthalene	63		66		40-140	5		50
Fluorene	66		68		40-140	3		50
Phenanthrene	65		69		40-140	6		50
Anthracene	68		73		40-140	7		50
Pyrene	67		71		35-142	6		50
Benzo(a)anthracene	69		75		40-140	8		50
Chrysene	69		76		40-140	10		50
Benzo(b)fluoranthene	70		76		40-140	8		50
Benzo(a)pyrene	76		81		40-140	6		50
Benzo(ghi)perylene	68		74		40-140	8		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	66		70		23-120
2-Fluorobiphenyl	63		65		30-120
4-Terphenyl-d14	68		71		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-01
Client ID: PB-848-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 09:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.75		mg/kg	2.41	0.129	1	07/13/22 06:00	07/16/22 19:12	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-02
Client ID: PB-848-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 09:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	26.2		mg/kg	4.38	0.235	2	07/13/22 06:00	07/18/22 16:25	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-03
Client ID: PB-848-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 09:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	51.6		mg/kg	4.24	0.227	2	07/13/22 06:00	07/17/22 12:00	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-04
Client ID: PB-848-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 09:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	716		mg/kg	2.44	0.130	1	07/13/22 06:00	07/16/22 19:52	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-05
Client ID: PB-848-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 09:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	8.21		mg/kg	4.59	0.246	2	07/13/22 06:00	07/17/22 12:05	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-06
Client ID: PB-848-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 09:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.20		mg/kg	2.39	0.128	1	07/13/22 06:00	07/16/22 20:02	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-07
Client ID: PB-848-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3200		mg/kg	4.73	0.253	2	07/13/22 06:00	07/17/22 12:10	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-08
Client ID: PB-848-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	246		mg/kg	4.70	0.252	2	07/13/22 06:00	07/17/22 12:15	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-09
Client ID: PB-848-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1140		mg/kg	2.41	0.129	1	07/13/22 06:00	07/16/22 20:17	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-10
Client ID: PB-848-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 72%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	721		mg/kg	5.48	0.294	2	07/13/22 06:00	07/17/22 12:20	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-11
Client ID: PB-848-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	15.0		mg/kg	2.24	0.120	1	07/13/22 06:00	07/16/22 20:27	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-12
Client ID: PB-848-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	282		mg/kg	2.36	0.126	1	07/13/22 06:00	07/16/22 20:32	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-13
Client ID: PB-848-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	28.5		mg/kg	2.46	0.132	1	07/13/22 06:00	07/16/22 20:48	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-14
Client ID: PB-848-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	15.7		mg/kg	2.42	0.130	1	07/13/22 06:00	07/16/22 20:53	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-15
Client ID: PB-848-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	9.28		mg/kg	2.29	0.123	1	07/13/22 06:00	07/16/22 20:58	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-16
Client ID: PB-848-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.41		mg/kg	2.32	0.124	1	07/13/22 06:00	07/16/22 21:03	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-17
Client ID: PB-848-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1840		mg/kg	2.29	0.122	1	07/13/22 06:00	07/16/22 21:08	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-18
Client ID: PB-848-18-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	60.7		mg/kg	11.4	0.609	5	07/13/22 06:00	07/17/22 13:08	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-19
Client ID: FB-071122-1
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Water

Date Collected: 07/11/22 14:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/12/22 12:16	07/13/22 23:01	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-20
Client ID: FB-071122-2
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 14:05
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/12/22 12:16	07/13/22 23:06	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-21
Client ID: DUP-39
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	18.8		mg/kg	2.22	0.119	1	07/13/22 06:00	07/16/22 21:18	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 19-20 Batch: WG1661768-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/12/22 12:16	07/13/22 21:46	1,6020B	SV

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-18,21 Batch: WG1661857-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/13/22 06:00	07/16/22 18:46	1,6010D	MC

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236779

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 Batch: WG1661768-2								
Lead, Total	98		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-18,21 Batch: WG1661857-2 SRM Lot Number: D113-540								
Lead, Total	89		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 QC Batch ID: WG1661768-3 QC Sample: L2236831-01 Client ID: MS Sample												
Lead, Total	488.2	530	818.1	**62**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-18,21 QC Batch ID: WG1661857-3 QC Sample: L2236779-01 Client ID: PB-848-01-SS01												
Lead, Total	6.75	50.7	44.3	**74**	Q	-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236779

Report Date: 07/18/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 QC Batch ID: WG1661768-4 QC Sample: L2236831-01 Client ID: DUP Sample						
Lead, Total	488.2	359.8	ug/l	**30**	Q	20
Total Metals - Mansfield Lab Associated sample(s): 01-18,21 QC Batch ID: WG1661857-4 QC Sample: L2236779-01 Client ID: PB-848-01-SS01						
Lead, Total	6.75	6.99	mg/kg	3		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Serial Dilution Analysis
Batch Quality Control

Lab Number: L2236779
Report Date: 07/18/22

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 QC Batch ID: WG1661768-6 QC Sample: L2236831-01 Client ID: DUP Sample						
Lead, Total	488.2	429.6	ug/l	12		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-01
Client ID: PB-848-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/11/22 09:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.6		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-02
Client ID: PB-848-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 09:10
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.0		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-03
Client ID: PB-848-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 09:20
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.5		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-04
Client ID: PB-848-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 09:30
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.9		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-05
Client ID: PB-848-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 09:40
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.6		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-06
Client ID: PB-848-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 09:50
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.8		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-07
Client ID: PB-848-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 10:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.0		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-08
Client ID: PB-848-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 10:10
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.0		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-09
Client ID: PB-848-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.8		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-10
Client ID: PB-848-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 10:30
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	72.1		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-11
Client ID: PB-848-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 10:40
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.3		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-12
Client ID: PB-848-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 10:50
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.6		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-13
Client ID: PB-848-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 11:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.8		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-14
Client ID: PB-848-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 11:10
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.1		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-15
Client ID: PB-848-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 11:20
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.2		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-16
Client ID: PB-848-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 11:30
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.4		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-17
Client ID: PB-848-17-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 11:40
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.8		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-18
Client ID: PB-848-18-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 11:50
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.2		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-21
Client ID: DUP-39
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.8		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236779

Report Date: 07/18/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-18,21 QC Batch ID: WG1661707-1 QC Sample: L2236779-01 Client ID: PB-848-01-SS01						
Solids, Total	79.6	79.1	%	1		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236779-01A	Vial MeOH preserved	B	NA		3.1	Y	Absent		PA-8260HLW(14)
L2236779-01B	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-01C	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-01D	Plastic 2oz unpreserved for TS	B	NA		3.1	Y	Absent		TS(7)
L2236779-01E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.1	Y	Absent		PB-TI(180)
L2236779-01F	Glass 120ml/4oz unpreserved	B	NA		3.1	Y	Absent		PA-PAH(14)
L2236779-02A	Vial MeOH preserved	C	NA		3.7	Y	Absent		PA-8260HLW(14)
L2236779-02B	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-02C	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-02D	Plastic 2oz unpreserved for TS	C	NA		3.7	Y	Absent		TS(7)
L2236779-02E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.7	Y	Absent		PB-TI(180)
L2236779-02F	Glass 120ml/4oz unpreserved	C	NA		3.7	Y	Absent		PA-PAH(14)
L2236779-03A	Vial MeOH preserved	C	NA		3.7	Y	Absent		PA-8260HLW(14)
L2236779-03B	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-03C	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-03D	Plastic 2oz unpreserved for TS	C	NA		3.7	Y	Absent		TS(7)
L2236779-03E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.7	Y	Absent		PB-TI(180)
L2236779-03F	Glass 120ml/4oz unpreserved	C	NA		3.7	Y	Absent		PA-PAH(14)
L2236779-04A	Vial MeOH preserved	A	NA		4.4	Y	Absent		PA-8260HLW(14)
L2236779-04B	Vial water preserved	A	NA		4.4	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-04C	Vial water preserved	A	NA		4.4	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236779-04D	Plastic 2oz unpreserved for TS	A	NA		4.4	Y	Absent		TS(7)
L2236779-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		PB-TI(180)
L2236779-04F	Glass 120ml/4oz unpreserved	A	NA		4.4	Y	Absent		PA-PAH(14)
L2236779-05A	Vial MeOH preserved	B	NA		3.1	Y	Absent		PA-8260HLW(14)
L2236779-05B	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-05C	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-05D	Plastic 2oz unpreserved for TS	B	NA		3.1	Y	Absent		TS(7)
L2236779-05E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.1	Y	Absent		PB-TI(180)
L2236779-05F	Glass 120ml/4oz unpreserved	B	NA		3.1	Y	Absent		PA-PAH(14)
L2236779-06A	Vial MeOH preserved	A	NA		4.4	Y	Absent		PA-8260HLW(14)
L2236779-06B	Vial water preserved	A	NA		4.4	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-06C	Vial water preserved	A	NA		4.4	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-06D	Plastic 2oz unpreserved for TS	A	NA		4.4	Y	Absent		TS(7)
L2236779-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		PB-TI(180)
L2236779-06F	Glass 120ml/4oz unpreserved	A	NA		4.4	Y	Absent		PA-PAH(14)
L2236779-07A	Vial MeOH preserved	B	NA		3.1	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2236779-07B	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260H(14),PA-8260HLW(14)
L2236779-07C	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260H(14),PA-8260HLW(14)
L2236779-07D	Plastic 2oz unpreserved for TS	B	NA		3.1	Y	Absent		TS(7)
L2236779-07E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.1	Y	Absent		PB-TI(180)
L2236779-07F	Glass 120ml/4oz unpreserved	B	NA		3.1	Y	Absent		PA-PAH(14)
L2236779-08A	Vial MeOH preserved	C	NA		3.7	Y	Absent		PA-8260HLW(14)
L2236779-08B	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-08C	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-08D	Plastic 2oz unpreserved for TS	C	NA		3.7	Y	Absent		TS(7)
L2236779-08E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.7	Y	Absent		PB-TI(180)
L2236779-08F	Glass 120ml/4oz unpreserved	C	NA		3.7	Y	Absent		PA-PAH(14)
L2236779-09A	Vial MeOH preserved	C	NA		3.7	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236779-09B	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-09C	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-09D	Plastic 2oz unpreserved for TS	C	NA		3.7	Y	Absent		TS(7)
L2236779-09E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.7	Y	Absent		PB-TI(180)
L2236779-09F	Glass 120ml/4oz unpreserved	C	NA		3.7	Y	Absent		PA-PAH(14)
L2236779-10A	Vial MeOH preserved	C	NA		3.7	Y	Absent		PA-8260HLW(14)
L2236779-10B	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-10C	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-10D	Plastic 2oz unpreserved for TS	C	NA		3.7	Y	Absent		TS(7)
L2236779-10E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.7	Y	Absent		PB-TI(180)
L2236779-10F	Glass 120ml/4oz unpreserved	C	NA		3.7	Y	Absent		PA-PAH(14)
L2236779-11A	Vial MeOH preserved	B	NA		3.1	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2236779-11B	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260H(14),PA-8260HLW(14)
L2236779-11C	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260H(14),PA-8260HLW(14)
L2236779-11D	Plastic 2oz unpreserved for TS	B	NA		3.1	Y	Absent		TS(7)
L2236779-11E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.1	Y	Absent		PB-TI(180)
L2236779-11F	Glass 120ml/4oz unpreserved	B	NA		3.1	Y	Absent		PA-PAH(14)
L2236779-12A	Vial MeOH preserved	B	NA		3.1	Y	Absent		PA-8260HLW(14)
L2236779-12B	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-12C	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-12D	Plastic 2oz unpreserved for TS	B	NA		3.1	Y	Absent		TS(7)
L2236779-12E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.1	Y	Absent		PB-TI(180)
L2236779-12F	Glass 120ml/4oz unpreserved	B	NA		3.1	Y	Absent		PA-PAH(14)
L2236779-13A	Vial MeOH preserved	C	NA		3.7	Y	Absent		PA-8260HLW(14)
L2236779-13B	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-13C	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-13D	Plastic 2oz unpreserved for TS	C	NA		3.7	Y	Absent		TS(7)
L2236779-13E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.7	Y	Absent		PB-TI(180)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236779-13F	Glass 120ml/4oz unpreserved	C	NA		3.7	Y	Absent		PA-PAH(14)
L2236779-14A	Vial MeOH preserved	C	NA		3.7	Y	Absent		PA-8260HLW(14)
L2236779-14B	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-14C	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-14D	Plastic 2oz unpreserved for TS	C	NA		3.7	Y	Absent		TS(7)
L2236779-14E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.7	Y	Absent		PB-TI(180)
L2236779-14F	Glass 120ml/4oz unpreserved	C	NA		3.7	Y	Absent		PA-PAH(14)
L2236779-15A	Vial MeOH preserved	B	NA		3.1	Y	Absent		PA-8260HLW(14)
L2236779-15B	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-15C	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-15D	Plastic 2oz unpreserved for TS	B	NA		3.1	Y	Absent		TS(7)
L2236779-15E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.1	Y	Absent		PB-TI(180)
L2236779-15F	Glass 120ml/4oz unpreserved	B	NA		3.1	Y	Absent		PA-PAH(14)
L2236779-16A	Vial MeOH preserved	B	NA		3.1	Y	Absent		PA-8260HLW(14)
L2236779-16B	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-16C	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-16D	Plastic 2oz unpreserved for TS	B	NA		3.1	Y	Absent		TS(7)
L2236779-16E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.1	Y	Absent		PB-TI(180)
L2236779-16F	Glass 120ml/4oz unpreserved	B	NA		3.1	Y	Absent		PA-PAH(14)
L2236779-17A	Vial MeOH preserved	A	NA		4.4	Y	Absent		PA-8260HLW(14)
L2236779-17B	Vial water preserved	A	NA		4.4	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-17C	Vial water preserved	A	NA		4.4	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-17D	Plastic 2oz unpreserved for TS	A	NA		4.4	Y	Absent		TS(7)
L2236779-17E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		PB-TI(180)
L2236779-17F	Glass 120ml/4oz unpreserved	A	NA		4.4	Y	Absent		PA-PAH(14)
L2236779-18A	Vial MeOH preserved	B	NA		3.1	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2236779-18B	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260H(14),PA-8260HLW(14)
L2236779-18C	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260H(14),PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236779-18D	Plastic 2oz unpreserved for TS	B	NA		3.1	Y	Absent		TS(7)
L2236779-18E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.1	Y	Absent		PB-TI(180)
L2236779-18F	Glass 120ml/4oz unpreserved	B	NA		3.1	Y	Absent		PA-PAH(14)
L2236779-19A	Vial HCl preserved	A	NA		4.4	Y	Absent		8011(14),PA-8260(14)
L2236779-19B	Vial HCl preserved	A	NA		4.4	Y	Absent		8011(14),PA-8260(14)
L2236779-19C	Vial HCl preserved	A	NA		4.4	Y	Absent		8011(14),PA-8260(14)
L2236779-19D	Plastic 250ml HNO3 preserved	A	<2	<2	4.4	Y	Absent		PB-6020T-PPB(180)
L2236779-19E	Amber 250ml unpreserved	A	7	7	4.4	Y	Absent		PA-PAHSIM-LVI(7)
L2236779-19F	Amber 250ml unpreserved	A	7	7	4.4	Y	Absent		PA-PAHSIM-LVI(7)
L2236779-20A	Vial HCl preserved	A	NA		4.4	Y	Absent		8011(14),PA-8260(14)
L2236779-20B	Vial HCl preserved	A	NA		4.4	Y	Absent		8011(14),PA-8260(14)
L2236779-20C	Vial HCl preserved	A	NA		4.4	Y	Absent		8011(14),PA-8260(14)
L2236779-20D	Plastic 250ml HNO3 preserved	A	<2	<2	4.4	Y	Absent		PB-6020T-PPB(180)
L2236779-20E	Amber 250ml unpreserved	A	7	7	4.4	Y	Absent		PA-PAHSIM-LVI(7)
L2236779-20F	Amber 250ml unpreserved	A	7	7	4.4	Y	Absent		PA-PAHSIM-LVI(7)
L2236779-21A	Vial MeOH preserved	B	NA		3.1	Y	Absent		PA-8260HLW(14)
L2236779-21B	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-21C	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-21D	Plastic 2oz unpreserved for TS	B	NA		3.1	Y	Absent		TS(7)
L2236779-21E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.1	Y	Absent		PB-TI(180)
L2236779-21F	Glass 120ml/4oz unpreserved	B	NA		3.1	Y	Absent		PA-PAH(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236779
Project Number:	200.00135.006	**Report Date:**	07/18/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236779
Project Number:	200.00135.006	**Report Date:**	07/18/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236779
Project Number:	200.00135.006	**Report Date:**	07/18/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236779
Project Number:	200.00135.006	**Report Date:**	07/18/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 3

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/12/22

ALPHA Job #: L2236779

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

"Report only attached project-specific analyte list" of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36779-01	PB-848-01-5501	7/11/22	900	S	AL	
-02	PB-848-02-5501		910			
-03	PB-848-03-5501		920			
-04	PB-848-04-5501		930			
-05	PB-848-05-5501		940			
-06	PB-848-06-5501		950			
-07	PB-848-07-5501		1000			
-08	PB-848-08-5501		1010			
-09	PB-848-09-5501		1020			
-10	PB-848-10-5501		1030			

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/11/22	STO AAL	7/11/22 15:18
	7/11/22 1600		7/11 1600
	7/11 2400		7/11 0900

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(MA) (rev. 5-JAN-12)

7/12/22 0030

CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/12/22 | ALPHA Job #: L2236779

Report Information | **Data Deliverables** | **Billing Information**

☐ FAX ☒ EMAIL ☐ Same as Client info PO #: 3562
☒ ADEx ☐ Add'l Deliverables

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36779-11	PB-848-11-5501	7/11/22	1040	S	AL	
-12	PB-848-12-5501		1050			
-13	PB-848-13-5501		1100			
-14	PB-848-14-5501		1110			
-15	PB-848-15-5501		1120			
-16	PB-848-16-5501		1130			
-17	PB-848-17-5501		1140			
-18	PB-848-18-5501		1150			
-19	FB-071122-1		1400	W		1"
-20	FB-071122-2		1405			2"

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
	7/11/22	ST AAL	7/11/22 15:18
ST	7/11/22 1800	AMP	7/11/22 1800
AMP	7/11/22 2400		7/11/22 2400

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(HC) (rev. 9-JAN-12)

CHAIN OF CUSTODY

PAGE 3 OF 3

Date Rec'd in Lab: 7/12/22

ALPHA Job #: L2236779

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING

Filtration
☐ Done
☒ Not Needed
☐ Lab to do

Preservation
☐ Lab to do

(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36779-11-21 CG	DUP-39	7/11/22	—	S	ac	

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/11/22	STN AA	7/12/22 15:15
STN	7/11/22 1600	MP	7/11/22 1600
MP	7/11/22 2101		7/11/22 2101
	7/11/22	ASC	7/12/22 0020

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

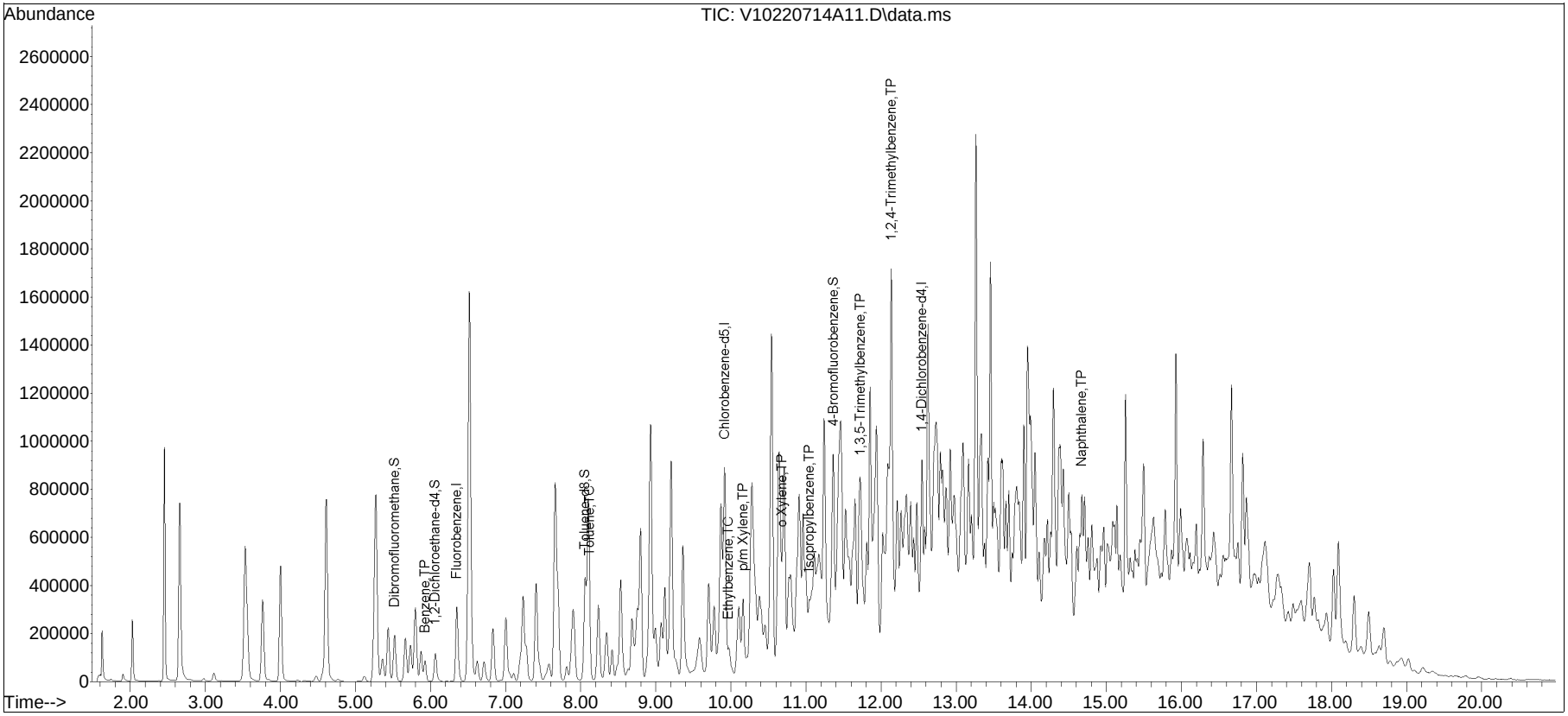
FORM NO: 01-01(I-NJ) (rev. 8-JAN-12)

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA110\2022\220714A\
Data File : V10220714A11.D
Acq On : 14 Jul 2022 12:04 pm
Operator : VOA110:JC
Sample : l2236779-04D,31h,5.98,5,0.025,,a,r2f
Misc : WG1662882,ICAL18890
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 15 09:26:26 2022
Quant Method : I:\VOLATILES\VOA110\2022\220714A\V110_220401N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 04 06:52:50 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list14A\V10220714A01.D•

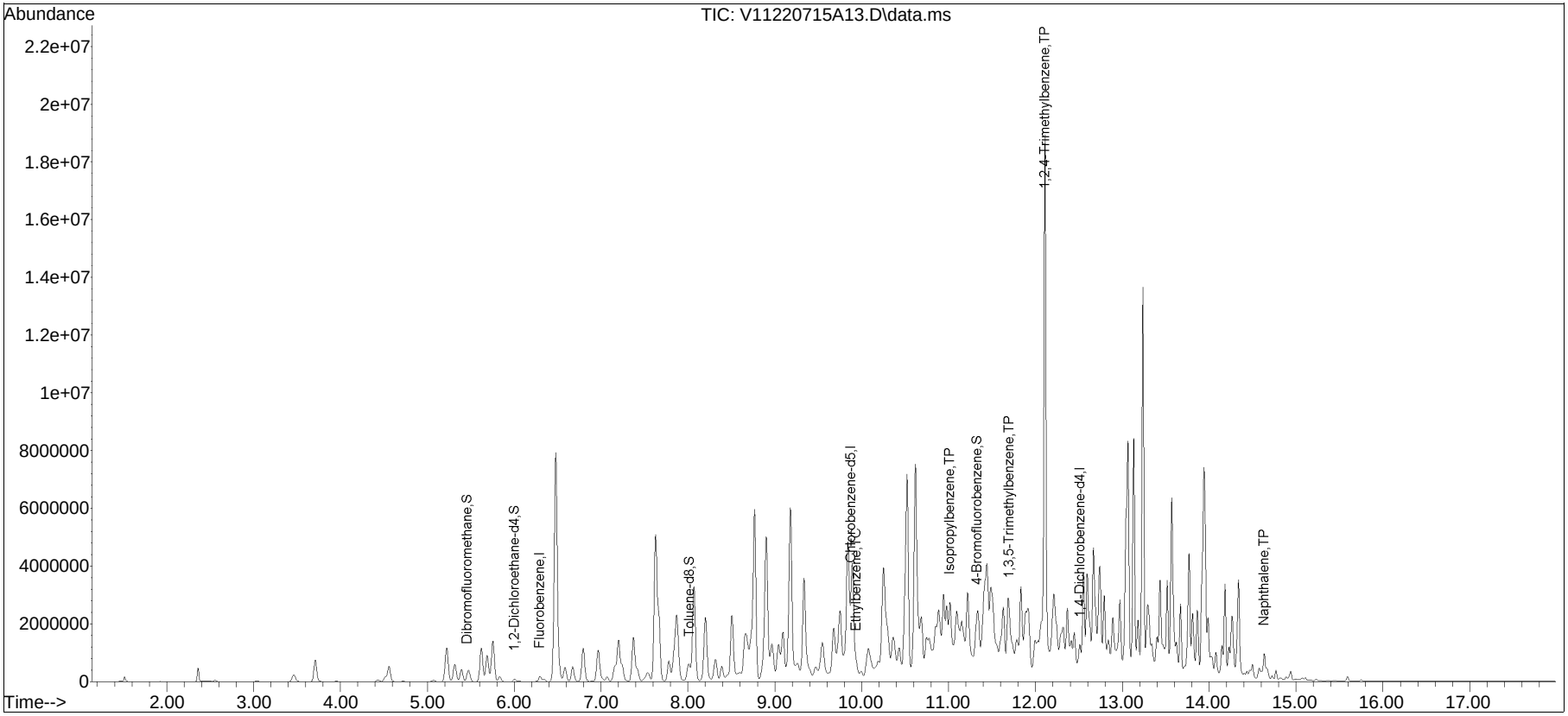


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2022\220715A\
Data File : V11220715A13.D
Acq On : 15 Jul 2022 03:28 pm
Operator : VOA111:LAC
Sample : L2236779-06,31H,5.94,5,0.100,,A,R2F
Misc : WG1663910,ICAL19072
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 16 17:28:29 2022
Quant Method : I:\VOLATILES\VOA111\2022\220715A\V111_220608A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Jun 09 10:30:20 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list15A\V11220715A02.D•

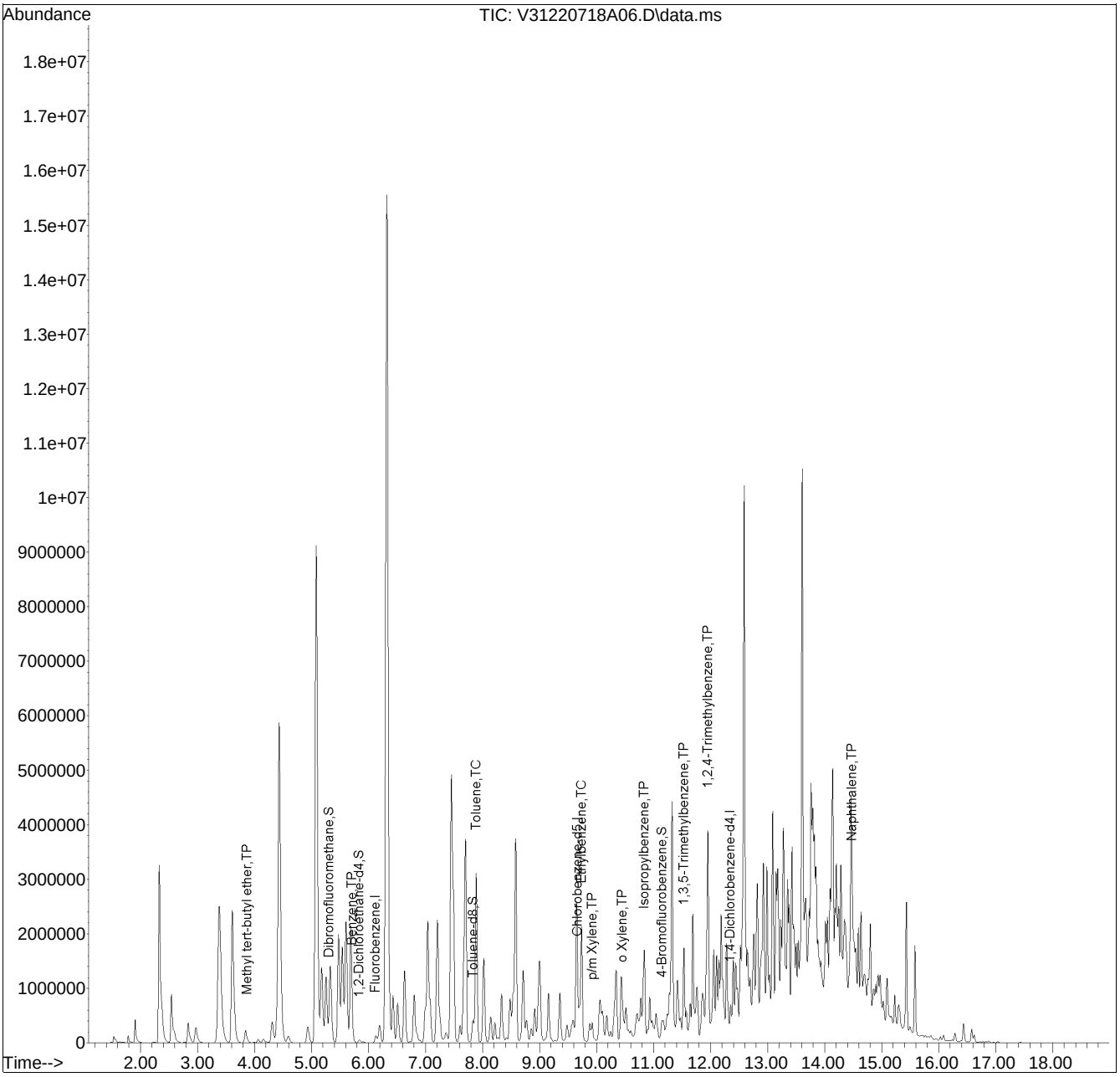


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA131\2022\220718A\
Data File : V31220718A06.D
Acq On : 18 Jul 2022 09:20 am
Operator : VOA131:MKS
Sample : l2236779-07,31,6.77,5,,b,r2f
Misc : WG1664169,ICAL19050
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 18 10:15:35 2022
Quant Method : I:\VOLATILES\VOA131\2022\220718A\V31_220525N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue May 31 11:11:48 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list18A\V31220718A01.D•

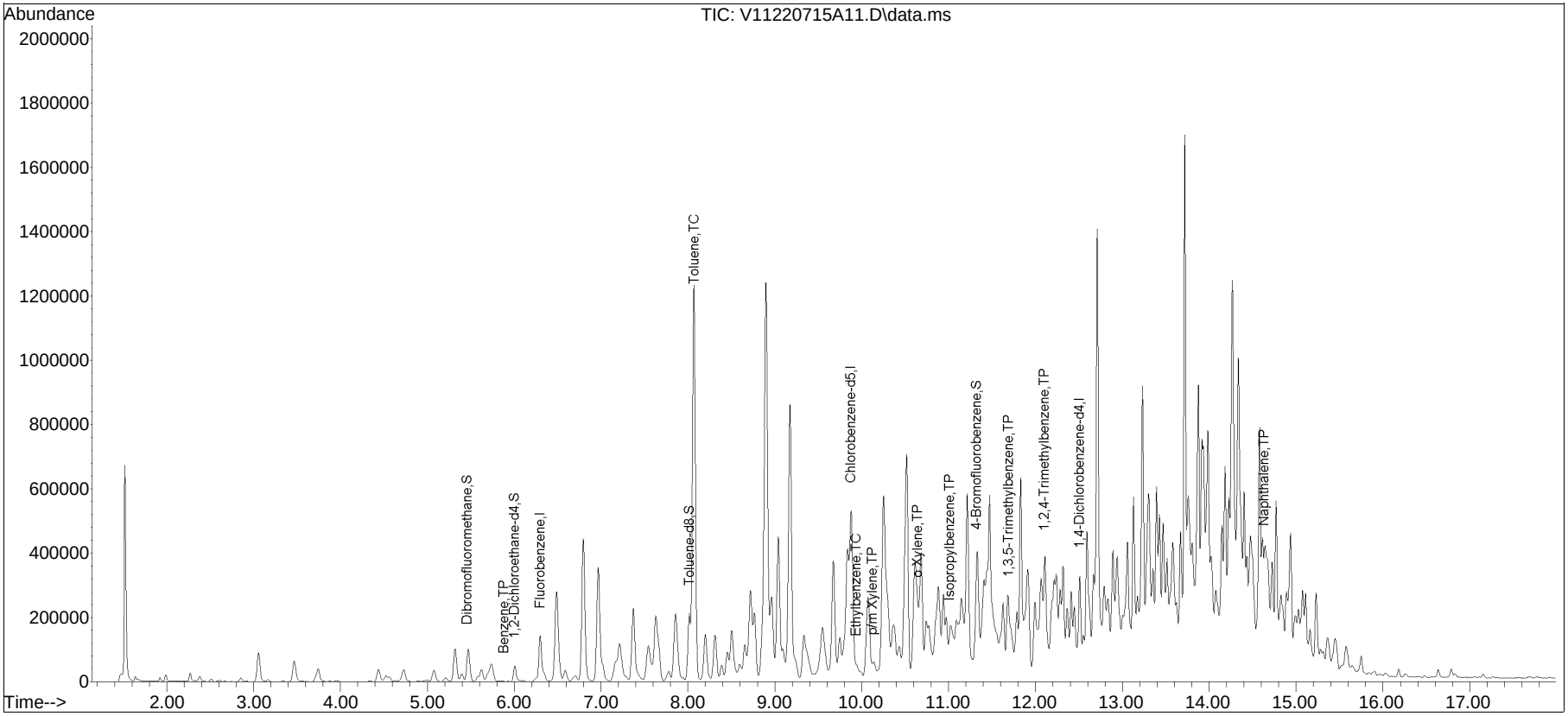


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2022\220715A\
Data File : V11220715A11.D
Acq On : 15 Jul 2022 02:36 pm
Operator : VOA111:LAC
Sample : L2236779-09,31,6.29,5,,B,R2F
Misc : WG1663911,ICAL19072
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 16 17:27:37 2022
Quant Method : I:\VOLATILES\VOA111\2022\220715A\V111_220608A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Jun 09 10:30:20 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list15A\V11220715A02.D•

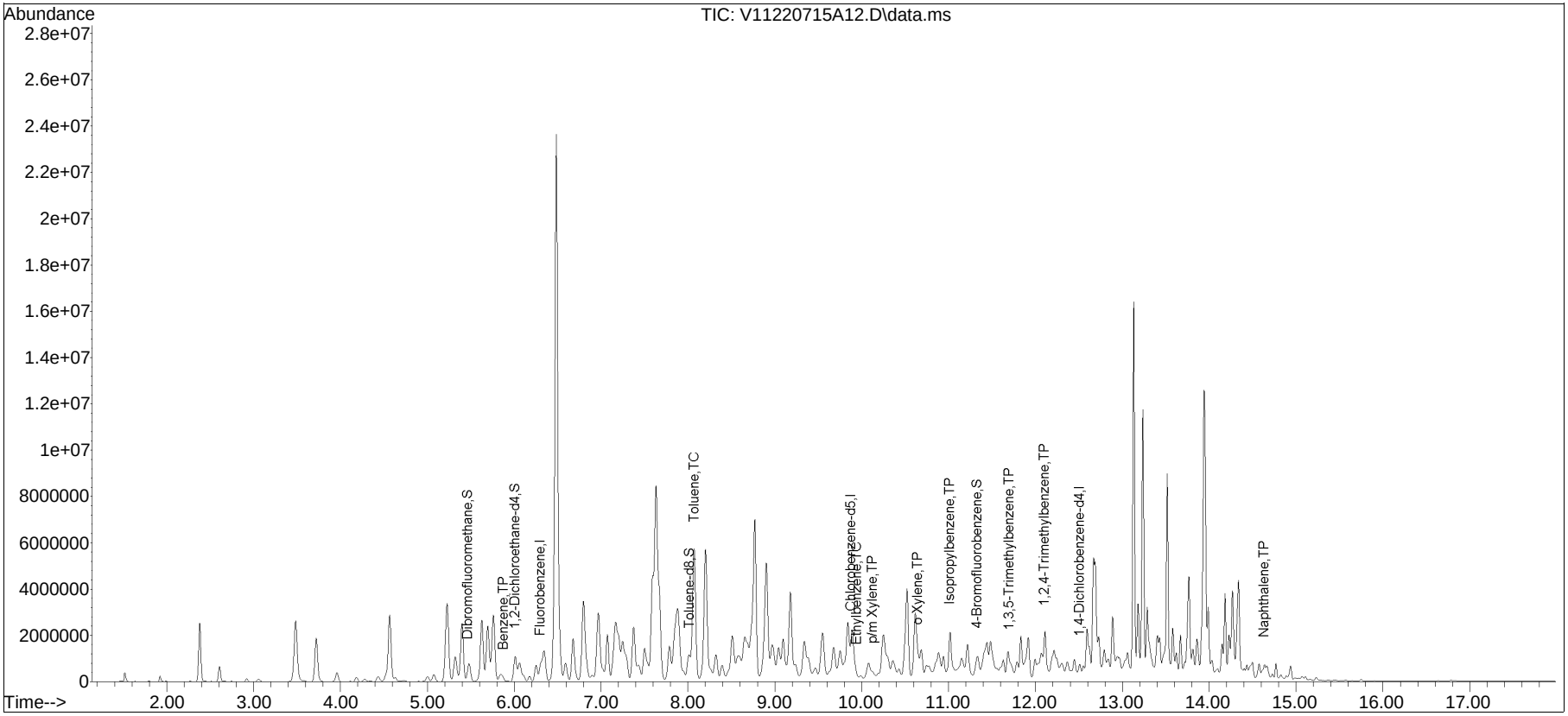


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2022\220715A\
Data File : V11220715A12.D
Acq On : 15 Jul 2022 03:02 pm
Operator : VOA111:LAC
Sample : L2236779-11,31,4.28,5,,B,R2F
Misc : WG1663911,ICAL19072
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 16 17:27:58 2022
Quant Method : I:\VOLATILES\VOA111\2022\220715A\V111_220608A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Jun 09 10:30:20 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list15A\V11220715A02.D•

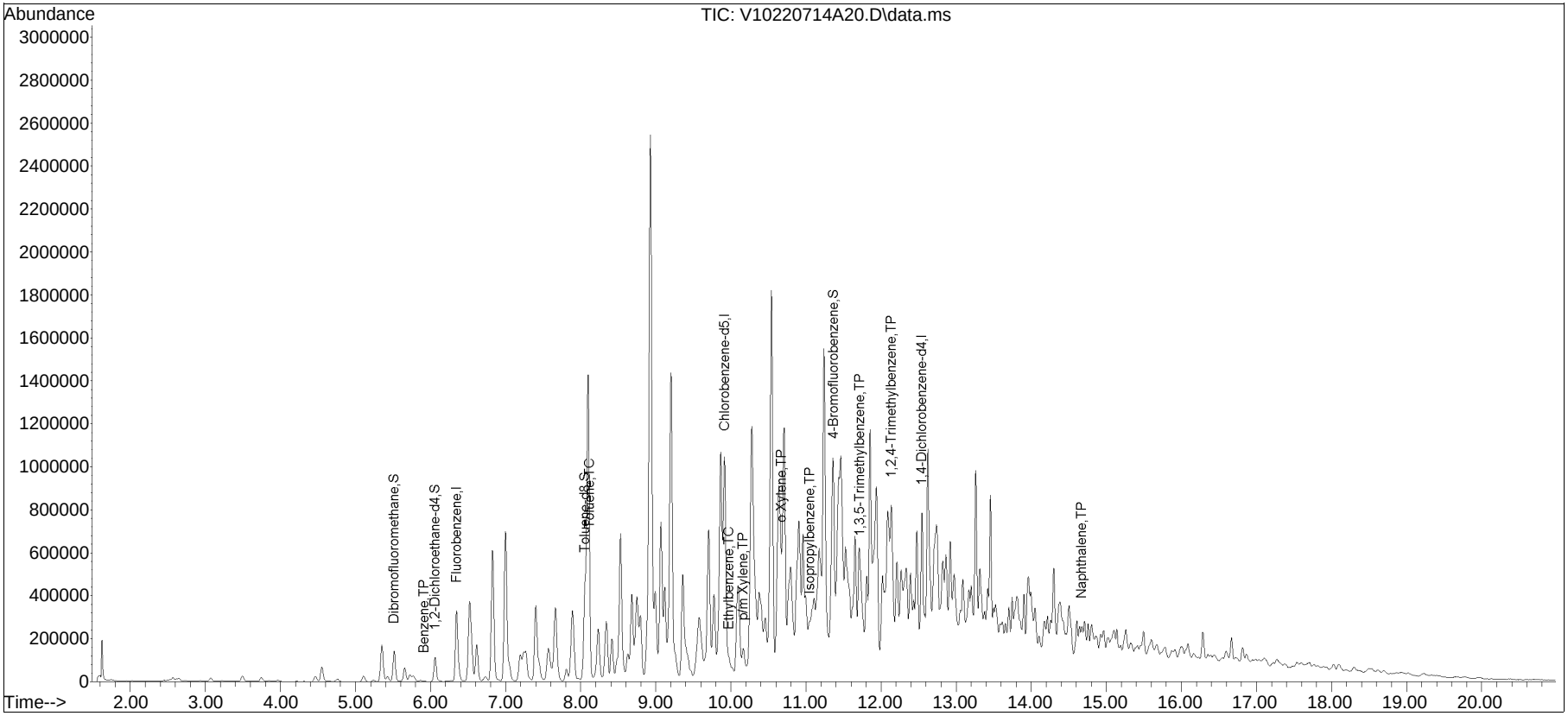


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA110\2022\220714A\
Data File : V10220714A20.D
Acq On : 14 Jul 2022 4:28 pm
Operator : VOA110:JC
Sample : l2236779-13,31h,5.46,5,0.100,,a,r2f
Misc : WG1662882,ICAL18890
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Jul 15 09:20:24 2022
Quant Method : I:\VOLATILES\VOA110\2022\220714A\V110_220401N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 04 06:52:50 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list14A\V10220714A01.D•

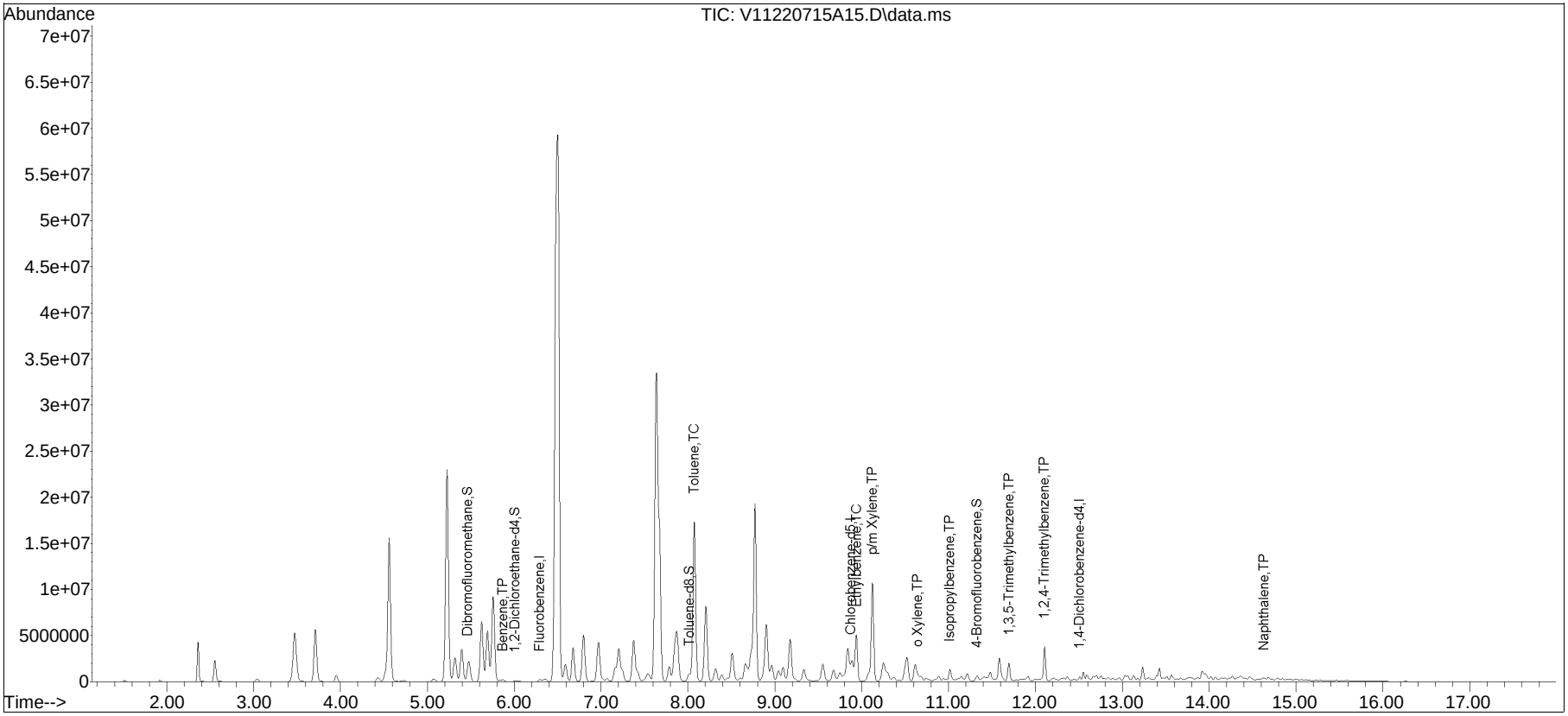


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2022\220715A\
Data File : V11220715A15.D
Acq On : 15 Jul 2022 04:21 pm
Operator : VOA111:LAC
Sample : L2236779-15,31H,6.49,5,0.100,,A,R2F
Misc : WG1663910,ICAL19072
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 16 17:30:19 2022
Quant Method : I:\VOLATILES\VOA111\2022\220715A\V111_220608A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Jun 09 10:30:20 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list15A\V11220715A02.D•

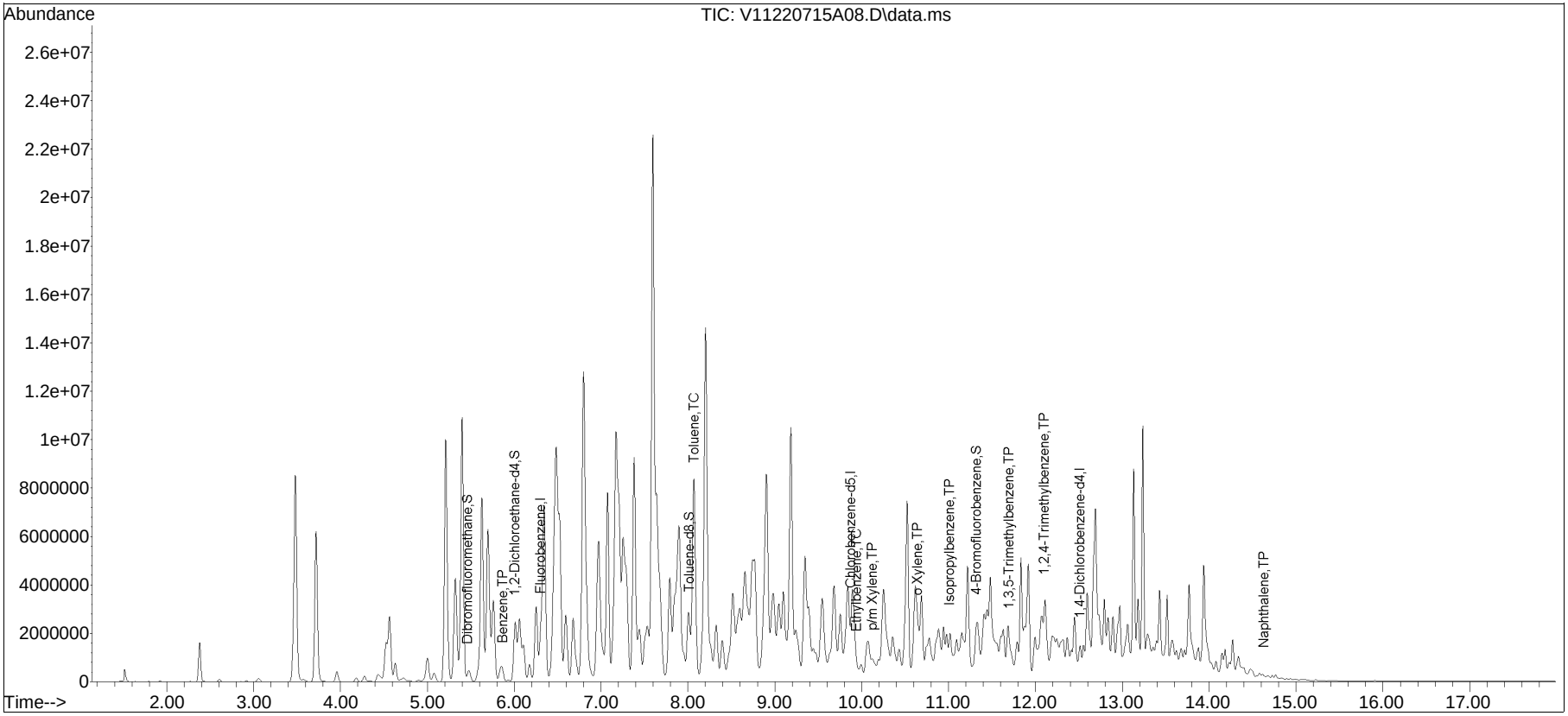


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2022\220715A\
Data File : V11220715A08.D
Acq On : 15 Jul 2022 01:17 pm
Operator : VOA111:LAC
Sample : L2236779-18,31,5.90,5,,B,R2F
Misc : WG1663911,ICAL19072
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 16 17:26:42 2022
Quant Method : I:\VOLATILES\VOA111\2022\220715A\V111_220608A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Jun 09 10:30:20 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list15A\V11220715A02.D•



ANALYTICAL REPORT

Lab Number:	L2236817
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/18/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236817
Report Date: 07/18/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2236817-01	PB-843-03-SS01	SOIL	PHILADELPHIA, PA	07/11/22 10:00	07/11/22
L2236817-02	PB-843-04-SS01	SOIL	PHILADELPHIA, PA	07/11/22 10:20	07/11/22
L2236817-03	PB-843-05-SS01	SOIL	PHILADELPHIA, PA	07/11/22 10:50	07/11/22
L2236817-04	PB-843-10-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:00	07/11/22
L2236817-05	PB-843-11-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:10	07/11/22
L2236817-06	PB-843-12-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:20	07/11/22
L2236817-07	PB-843-13-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:35	07/11/22
L2236817-08	PB-843-17-SS01	SOIL	PHILADELPHIA, PA	07/11/22 13:00	07/11/22
L2236817-09	PB-843-14-SS01	SOIL	PHILADELPHIA, PA	07/11/22 13:10	07/11/22
L2236817-10	PB-843-01-SS01	SOIL	PHILADELPHIA, PA	07/11/22 13:20	07/11/22
L2236817-11	PB-843-08-SS01	SOIL	PHILADELPHIA, PA	07/11/22 14:00	07/11/22
L2236817-12	PB-843-02-SS01	SOIL	PHILADELPHIA, PA	07/11/22 14:15	07/11/22
L2236817-13	PB-843-06-SS01	SOIL	PHILADELPHIA, PA	07/11/22 14:25	07/11/22
L2236817-14	PB-843-07-SS01	SOIL	PHILADELPHIA, PA	07/11/22 14:35	07/11/22
L2236817-15	PB-843-15-SS01	SOIL	PHILADELPHIA, PA	07/11/22 14:50	07/11/22
L2236817-16	PB-843-09-SS01	SOIL	PHILADELPHIA, PA	07/11/22 15:00	07/11/22
L2236817-17	PB-843-16-SS01	SOIL	PHILADELPHIA, PA	07/11/22 15:20	07/11/22
L2236817-18	DUP-40	SOIL	PHILADELPHIA, PA	07/11/22 00:00	07/11/22
L2236817-19	FB-071122-3	WATER	PHILADELPHIA, PA	07/11/22 15:30	07/11/22
L2236817-20	FB-071122-4	WATER	PHILADELPHIA, PA	07/11/22 15:35	07/11/22
L2236817-21	TB-071122	WATER	PHILADELPHIA, PA	07/11/22 00:00	07/11/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236817
Project Number:	200.00135.006	**Report Date:**	07/18/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236817
Project Number:	200.00135.006	**Report Date:**	07/18/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Total Metals

L2236817-03, -17, and -18: The sample has an elevated detection limit for lead due to the dilution required by matrix interferences encountered during analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 07/18/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-01
Client ID: PB-843-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 22:08
Analyst: JC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0027	0.00027	1
Benzene	ND		mg/kg	0.00067	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00034	1
Toluene	ND		mg/kg	0.0013	0.00072	1
1,2-Dibromoethane	ND		mg/kg	0.00067	0.00039	1
Ethylbenzene	ND		mg/kg	0.0013	0.00019	1
p/m-Xylene	ND		mg/kg	0.0027	0.00075	1
o-Xylene	ND		mg/kg	0.0013	0.00039	1
Xylenes, Total	ND		mg/kg	0.0013	0.00039	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0027	0.00026	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0027	0.00044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-02
Client ID: PB-843-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 22:34
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	0.00078		mg/kg	0.00061	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00066	1
1,2-Dibromoethane	ND		mg/kg	0.00061	0.00036	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00068	1
o-Xylene	ND		mg/kg	0.0012	0.00035	1
Xylenes, Total	ND		mg/kg	0.0012	0.00035	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00040	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	84		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-03
Client ID: PB-843-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 23:00
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	0.0067		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00061	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	0.00012	J	mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	75		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	83		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-04
Client ID: PB-843-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 23:26
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0012	J	mg/kg	0.0021	0.00021	1
Benzene	0.082		mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	0.0052		mg/kg	0.0021	0.00058	1
o-Xylene	0.0018		mg/kg	0.0010	0.00030	1
Xylenes, Total	0.0070		mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.00037	J	mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	72		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	79		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-05
Client ID: PB-843-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 23:52
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00045	J	mg/kg	0.0025	0.00025	1
Benzene	0.00024	J	mg/kg	0.00063	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00032	1
Toluene	ND		mg/kg	0.0013	0.00068	1
1,2-Dibromoethane	ND		mg/kg	0.00063	0.00037	1
Ethylbenzene	ND		mg/kg	0.0013	0.00018	1
p/m-Xylene	ND		mg/kg	0.0025	0.00071	1
o-Xylene	ND		mg/kg	0.0013	0.00037	1
Xylenes, Total	ND		mg/kg	0.0013	0.00037	1
Isopropylbenzene	0.00026	J	mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0025	0.00024	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0025	0.00042	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	79		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	87		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-06
Client ID: PB-843-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 00:18
Analyst: JC
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00090	J	mg/kg	0.0020	0.00020	1
Benzene	0.0017		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.00045	J	mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	72		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	80		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-07
Client ID: PB-843-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 00:44
Analyst: JC
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	76		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	82		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-08
Client ID: PB-843-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 13:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 01:11
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00055	J	mg/kg	0.0023	0.00023	1
Benzene	0.00024	J	mg/kg	0.00057	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00057	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00064	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	72		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	79		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-09
Client ID: PB-843-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 13:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 01:37
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00060	J	mg/kg	0.0020	0.00020	1
Benzene	0.00035	J	mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00099	0.00025	1
Toluene	ND		mg/kg	0.00099	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00099	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00099	0.00029	1
Xylenes, Total	ND		mg/kg	0.00099	0.00029	1
Isopropylbenzene	0.00017	J	mg/kg	0.00099	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	73		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	77		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-10
Client ID: PB-843-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 13:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 02:03
Analyst: JC
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	88		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-11
Client ID: PB-843-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 02:29
Analyst: JC
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	86		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-12
Client ID: PB-843-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:15
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 02:56
Analyst: JC
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	0.00085		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00091	0.00023	1
Toluene	ND		mg/kg	0.00091	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00091	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00091	0.00026	1
Xylenes, Total	ND		mg/kg	0.00091	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00091	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	79		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	83		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-13
Client ID: PB-843-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:25
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 03:22
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00037	J	mg/kg	0.0024	0.00024	1
Benzene	0.0057		mg/kg	0.00061	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00066	1
1,2-Dibromoethane	ND		mg/kg	0.00061	0.00036	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00068	1
o-Xylene	ND		mg/kg	0.0012	0.00035	1
Xylenes, Total	ND		mg/kg	0.0012	0.00035	1
Isopropylbenzene	0.00071	J	mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00040	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	78		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	84		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-14
Client ID: PB-843-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 05:07
Analyst: JC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00047	J	mg/kg	0.0019	0.00019	1
Benzene	0.00032	J	mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00096	0.00025	1
Toluene	0.0020		mg/kg	0.00096	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	0.00071	J	mg/kg	0.00096	0.00014	1
p/m-Xylene	0.0034		mg/kg	0.0019	0.00054	1
o-Xylene	0.0015		mg/kg	0.00096	0.00028	1
Xylenes, Total	0.0049		mg/kg	0.00096	0.00028	1
Isopropylbenzene	0.00016	J	mg/kg	0.00096	0.00010	1
1,3,5-Trimethylbenzene	0.0011	J	mg/kg	0.0019	0.00019	1
1,2,4-Trimethylbenzene	0.0018	J	mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	128		70-130
Dibromofluoromethane	79		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-15
Client ID: PB-843-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 03:48
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00097	0.00025	1
Toluene	ND		mg/kg	0.00097	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00097	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00097	0.00028	1
Xylenes, Total	ND		mg/kg	0.00097	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00097	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	73		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	76		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-16
Client ID: PB-843-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 04:14
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0025	0.00025	1
Benzene	0.0018		mg/kg	0.00063	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00032	1
Toluene	ND		mg/kg	0.0012	0.00068	1
1,2-Dibromoethane	ND		mg/kg	0.00063	0.00037	1
Ethylbenzene	ND		mg/kg	0.0012	0.00018	1
p/m-Xylene	ND		mg/kg	0.0025	0.00070	1
o-Xylene	ND		mg/kg	0.0012	0.00037	1
Xylenes, Total	ND		mg/kg	0.0012	0.00037	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0025	0.00024	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0025	0.00042	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	78		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	83		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-17
Client ID: PB-843-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 04:40
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00020	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00097	0.00025	1
Toluene	ND		mg/kg	0.00097	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00097	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00097	0.00028	1
Xylenes, Total	ND		mg/kg	0.00097	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00097	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	76		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	83		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-18
Client ID: DUP-40
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 11:00
Analyst: LAC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0026	0.00026	1
Benzene	ND		mg/kg	0.00066	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00034	1
Toluene	ND		mg/kg	0.0013	0.00071	1
1,2-Dibromoethane	ND		mg/kg	0.00066	0.00038	1
Ethylbenzene	ND		mg/kg	0.0013	0.00018	1
p/m-Xylene	ND		mg/kg	0.0026	0.00074	1
o-Xylene	ND		mg/kg	0.0013	0.00038	1
Xylenes, Total	ND		mg/kg	0.0013	0.00038	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0026	0.00025	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0026	0.00044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	77		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-19
Client ID: FB-071122-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 17:00
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-19
Client ID: FB-071122-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/13/22 22:36
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	121		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	129		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-20
Client ID: FB-071122-4
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 17:06
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-20
Client ID: FB-071122-4
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/13/22 23:01
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	124		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	**133**	Q	70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-21
Client ID: TB-071122
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 17:13
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-21
Client ID: TB-071122
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/15/22 12:51
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	130		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/13/22 14:45
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 19-21 Batch: WG1662273-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/13/22 17:26
Analyst: TMS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 19-20 Batch: WG1663309-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	119		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/14/22 20:49
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-17 Batch: WG1663407-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 09:04
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 21 Batch: WG1663987-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	119		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 08:41
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 18 Batch: WG1663990-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	86		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	101		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236817

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 19-21 Batch: WG1662273-2								
1,2-Dibromoethane	110		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236817

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 19-20 Batch: WG1663309-3 WG1663309-4								
Methyl tert butyl ether	95		97		63-130	2		20
Benzene	98		100		70-130	2		20
1,2-Dichloroethane	100		100		70-130	0		20
Toluene	95		96		70-130	1		20
Ethylbenzene	94		96		70-130	2		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
Isopropylbenzene	88		92		70-130	4		20
1,3,5-Trimethylbenzene	91		95		64-130	4		20
1,2,4-Trimethylbenzene	90		94		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		105		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	102		94		70-130
Dibromofluoromethane	102		104		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-17 Batch: WG1663407-3 WG1663407-4								
Methyl tert butyl ether	99		101		66-130	2		30
Benzene	93		93		70-130	0		30
1,2-Dichloroethane	70		71		70-130	1		30
Toluene	95		95		70-130	0		30
1,2-Dibromoethane	86		88		70-130	2		30
Ethylbenzene	92		91		70-130	1		30
p/m-Xylene	96		95		70-130	1		30
o-Xylene	93		93		70-130	0		30
Isopropylbenzene	99		100		70-130	1		30
1,3,5-Trimethylbenzene	92		97		70-130	5		30
1,2,4-Trimethylbenzene	92		94		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	74		75		70-130
Toluene-d8	102		103		70-130
4-Bromofluorobenzene	102		102		70-130
Dibromofluoromethane	79		79		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236817

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 21 Batch: WG1663987-3 WG1663987-4								
Methyl tert butyl ether	91		91		63-130	0		20
Benzene	100		100		70-130	0		20
1,2-Dichloroethane	98		100		70-130	2		20
Toluene	98		98		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	105		105		70-130	0		20
o-Xylene	105		105		70-130	0		20
Isopropylbenzene	96		98		70-130	2		20
1,3,5-Trimethylbenzene	97		97		64-130	0		20
1,2,4-Trimethylbenzene	98		98		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		97		70-130
Toluene-d8	98		96		70-130
4-Bromofluorobenzene	91		92		70-130
Dibromofluoromethane	104		106		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236817

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 18 Batch: WG1663990-3 WG1663990-4								
Methyl tert butyl ether	94		100		66-130	6		30
Benzene	90		92		70-130	2		30
1,2-Dichloroethane	**69**	Q	70		70-130	1		30
Toluene	89		94		70-130	5		30
1,2-Dibromoethane	95		98		70-130	3		30
Ethylbenzene	86		91		70-130	6		30
p/m-Xylene	91		96		70-130	5		30
o-Xylene	91		96		70-130	5		30
Isopropylbenzene	86		91		70-130	6		30
1,3,5-Trimethylbenzene	85		91		70-130	7		30
1,2,4-Trimethylbenzene	86		92		70-130	7		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	78		77		70-130
Toluene-d8	98		101		70-130
4-Bromofluorobenzene	94		95		70-130
Dibromofluoromethane	90		90		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-01
Client ID: PB-843-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 08:01
Analyst: SLR
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	48		23-120
2-Fluorobiphenyl	**23**	Q	30-120
4-Terphenyl-d14	30		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-02
Client ID: PB-843-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 08:25
Analyst: SLR
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	55		23-120
2-Fluorobiphenyl	**29**	Q	30-120
4-Terphenyl-d14	23		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-03
Client ID: PB-843-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 06:28
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	59		23-120
2-Fluorobiphenyl	**29**	Q	30-120
4-Terphenyl-d14	30		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-04
Client ID: PB-843-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 11:33
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.037	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	57		23-120
2-Fluorobiphenyl	33		30-120
4-Terphenyl-d14	32		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-05
Client ID: PB-843-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 12:43
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	115		23-120
2-Fluorobiphenyl	64		30-120
4-Terphenyl-d14	56		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-06
Client ID: PB-843-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 08:48
Analyst: SLR
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	102		23-120
2-Fluorobiphenyl	53		30-120
4-Terphenyl-d14	55		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-07
Client ID: PB-843-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 09:12
Analyst: SLR
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.034	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	101		23-120
2-Fluorobiphenyl	46		30-120
4-Terphenyl-d14	38		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-08
Client ID: PB-843-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 13:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 11:56
Analyst: SLR
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	104		23-120
2-Fluorobiphenyl	56		30-120
4-Terphenyl-d14	58		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-09
Client ID: PB-843-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 13:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 12:20
Analyst: SLR
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	55		30-120
4-Terphenyl-d14	55		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-10
Client ID: PB-843-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 13:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 15:23
Analyst: CMM
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 07:56

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	57		30-120
4-Terphenyl-d14	65		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-11
Client ID: PB-843-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 18:06
Analyst: SLR
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	54		23-120
2-Fluorobiphenyl	51		30-120
4-Terphenyl-d14	48		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-12
Client ID: PB-843-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:15
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 05:41
Analyst: SLR
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	100		23-120
2-Fluorobiphenyl	58		30-120
4-Terphenyl-d14	63		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-13
Client ID: PB-843-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:25
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 02:36
Analyst: SZ
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.022	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	71		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-14
Client ID: PB-843-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 08:54
Analyst: SZ
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.038	J	mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	0.14		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.037	J	mg/kg	0.11	0.021	1
Chrysene	0.10	J	mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.033	J	mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	101		23-120
2-Fluorobiphenyl	58		30-120
4-Terphenyl-d14	60		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-15
Client ID: PB-843-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 06:56
Analyst: SZ
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	0.19		mg/kg	0.12	0.024	1
Anthracene	0.050	J	mg/kg	0.12	0.038	1
Pyrene	0.39		mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.24		mg/kg	0.12	0.022	1
Chrysene	0.24		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.27		mg/kg	0.12	0.033	1
Benzo(a)pyrene	0.23		mg/kg	0.16	0.047	1
Benzo(ghi)perylene	0.12	J	mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	67		30-120
4-Terphenyl-d14	54		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-16
Client ID: PB-843-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 02:12
Analyst: SZ
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	54		23-120
2-Fluorobiphenyl	52		30-120
4-Terphenyl-d14	42		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-17
Client ID: PB-843-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 02:59
Analyst: SZ
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	62		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-18
Client ID: DUP-40
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 03:23
Analyst: SZ
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	0.026	J	mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	0.026	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.022	J	mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	64		23-120
2-Fluorobiphenyl	60		30-120
4-Terphenyl-d14	51		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-19
Client ID: FB-071122-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/13/22 12:54
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/12/22 15:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	38		23-120
2-Fluorobiphenyl	43		15-120
4-Terphenyl-d14	44		41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-20
Client ID: FB-071122-4
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/17/22 13:38
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/12/22 15:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	28		23-120
2-Fluorobiphenyl	29		15-120
4-Terphenyl-d14	**32**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/13/22 01:47
Analyst: SLR

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-09,11-18 Batch: WG1661861-1					
Naphthalene	ND		mg/kg	0.17	0.020
Fluorene	ND		mg/kg	0.17	0.016
Phenanthrene	ND		mg/kg	0.10	0.020
Anthracene	ND		mg/kg	0.10	0.032
Pyrene	ND		mg/kg	0.10	0.016
Benzo(a)anthracene	ND		mg/kg	0.10	0.019
Chrysene	ND		mg/kg	0.10	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.020

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	61		23-120
2-Fluorobiphenyl	33		30-120
4-Terphenyl-d14	41		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/13/22 11:32
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/12/22 15:44

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 19-20 Batch: WG1661883-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	0.03	J	ug/l	0.05	0.02
Anthracene	0.02	J	ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	0.03	J	ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	38		23-120
2-Fluorobiphenyl	39		15-120
4-Terphenyl-d14	46		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/14/22 13:22
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 10 Batch: WG1662493-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.10	0.020
Anthracene	ND		mg/kg	0.10	0.032
Pyrene	ND		mg/kg	0.10	0.016
Benzo(a)anthracene	ND		mg/kg	0.10	0.019
Chrysene	ND		mg/kg	0.10	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.020

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	90		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236817
Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-09,11-18 Batch: WG1661861-2 WG1661861-3								
Naphthalene	51		53		40-140	4		50
Fluorene	51		55		40-140	8		50
Phenanthrene	50		54		40-140	8		50
Anthracene	51		56		40-140	9		50
Pyrene	50		55		35-142	10		50
Benzo(a)anthracene	51		55		40-140	8		50
Chrysene	49		54		40-140	10		50
Benzo(b)fluoranthene	52		57		40-140	9		50
Benzo(a)pyrene	52		57		40-140	9		50
Benzo(ghi)perylene	49		55		40-140	12		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	51		52		23-120
2-Fluorobiphenyl	**26**	Q	**26**	Q	30-120
4-Terphenyl-d14	27		28		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236817

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 19-20 Batch: WG1661883-2 WG1661883-3								
Naphthalene	50		123		40-140	**84**	Q	40
Fluorene	51		125		40-140	**84**	Q	40
Phenanthrene	50		123		40-140	**84**	Q	40
Anthracene	50		123		40-140	**84**	Q	40
Pyrene	51		**129**	Q	26-127	**87**	Q	40
Benzo(a)anthracene	48		123		40-140	**88**	Q	40
Chrysene	49		124		40-140	**87**	Q	40
Benzo(b)fluoranthene	52		138		40-140	**91**	Q	40
Benzo(a)pyrene	49		134		40-140	**93**	Q	40
Benzo(ghi)perylene	52		137		40-140	**90**	Q	40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	24		28		23-120
2-Fluorobiphenyl	25		30		15-120
4-Terphenyl-d14	**26**	Q	**32**	Q	41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236817

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 10 Batch: WG1662493-2 WG1662493-3								
Naphthalene	81		83		40-140	2		50
Fluorene	85		87		40-140	2		50
Phenanthrene	86		86		40-140	0		50
Anthracene	89		89		40-140	0		50
Pyrene	88		87		35-142	1		50
Benzo(a)anthracene	93		93		40-140	0		50
Chrysene	92		92		40-140	0		50
Benzo(b)fluoranthene	100		99		40-140	1		50
Benzo(a)pyrene	102		102		40-140	0		50
Benzo(ghi)perylene	90		92		40-140	2		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	87		89		23-120
2-Fluorobiphenyl	79		79		30-120
4-Terphenyl-d14	88		85		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-01
Client ID: PB-843-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.06		mg/kg	2.08	0.112	1	07/13/22 09:00	07/15/22 22:51	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-02
Client ID: PB-843-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.63		mg/kg	2.26	0.121	1	07/13/22 09:00	07/15/22 21:42	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-03
Client ID: PB-843-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.17		mg/kg	4.48	0.240	2	07/13/22 09:00	07/16/22 00:41	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-04
Client ID: PB-843-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.30		mg/kg	2.21	0.118	1	07/13/22 09:00	07/15/22 21:52	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-05
Client ID: PB-843-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.83		mg/kg	2.25	0.120	1	07/13/22 09:00	07/15/22 22:38	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-06
Client ID: PB-843-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	8.48		mg/kg	2.15	0.115	1	07/13/22 09:00	07/15/22 22:42	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-07
Client ID: PB-843-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.21		mg/kg	2.08	0.112	1	07/13/22 09:00	07/15/22 22:47	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-08
Client ID: PB-843-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 13:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	11.0		mg/kg	2.38	0.128	1	07/13/22 09:00	07/15/22 23:27	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-09
Client ID: PB-843-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 13:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	11.2		mg/kg	2.24	0.120	1	07/13/22 09:00	07/15/22 23:32	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-10
Client ID: PB-843-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 13:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.02		mg/kg	2.08	0.112	1	07/13/22 09:00	07/15/22 23:36	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-11
Client ID: PB-843-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 14:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.99		mg/kg	2.03	0.109	1	07/13/22 09:00	07/15/22 23:41	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-12
Client ID: PB-843-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 14:15
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.41		mg/kg	2.18	0.117	1	07/13/22 09:00	07/15/22 23:46	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-13
Client ID: PB-843-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 14:25
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.13		mg/kg	2.22	0.119	1	07/13/22 09:00	07/15/22 23:50	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-14
Client ID: PB-843-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 14:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	14.2		mg/kg	2.21	0.118	1	07/13/22 09:00	07/15/22 23:55	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-15
Client ID: PB-843-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 14:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	92.0		mg/kg	2.26	0.121	1	07/13/22 09:00	07/16/22 00:00	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-16
Client ID: PB-843-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 15:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	18.3		mg/kg	2.32	0.125	1	07/13/22 09:00	07/16/22 00:04	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-17
Client ID: PB-843-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 15:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	48.6		mg/kg	4.56	0.244	2	07/13/22 09:00	07/17/22 13:18	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-18
Client ID: DUP-40
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	18.0		mg/kg	4.67	0.250	2	07/13/22 09:00	07/17/22 13:23	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-19
Client ID: FB-071122-3
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Water

Date Collected: 07/11/22 15:30
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/12/22 12:16	07/13/22 23:11	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-20
Client ID: FB-071122-4
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 15:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/12/22 12:16	07/13/22 23:17	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 19-20 Batch: WG1661768-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/12/22 12:16	07/13/22 21:46	1,6020B	SV

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-18 Batch: WG1661855-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/13/22 09:00	07/15/22 22:29	1,6010D	BV

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236817

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 Batch: WG1661768-2								
Lead, Total	98		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-18 Batch: WG1661855-2 SRM Lot Number: D113-540								
Lead, Total	84		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236817
Report Date: 07/18/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 QC Batch ID: WG1661768-3 QC Sample: L2236831-01 Client ID: MS Sample												
Lead, Total	488.2	530	818.1	**62**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-18 QC Batch ID: WG1661855-3 QC Sample: L2236817-01 Client ID: PB-843-03-SS01												
Lead, Total	3.06	43.6	42.1	89		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236817

Report Date: 07/18/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 QC Batch ID: WG1661768-4 QC Sample: L2236831-01 Client ID: DUP Sample						
Lead, Total	488.2	359.8	ug/l	**30**	Q	20
Total Metals - Mansfield Lab Associated sample(s): 01-18 QC Batch ID: WG1661855-4 QC Sample: L2236817-01 Client ID: PB-843-03-SS01						
Lead, Total	3.06	3.18	mg/kg	4		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Serial Dilution Analysis
Batch Quality Control

Lab Number: L2236817
Report Date: 07/18/22

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 QC Batch ID: WG1661768-6 QC Sample: L2236831-01 Client ID: DUP Sample						
Lead, Total	488.2	429.6	ug/l	12		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-01
Client ID: PB-843-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/11/22 10:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.8		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-02
Client ID: PB-843-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.5		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-03
Client ID: PB-843-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/11/22 10:50
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.6		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-04
Client ID: PB-843-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 11:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.7		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-05
Client ID: PB-843-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 11:10
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.4		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-06
Client ID: PB-843-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/11/22 11:20
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.2		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-07
Client ID: PB-843-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 11:35
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.2		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-08
Client ID: PB-843-17-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 13:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.5		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-09
Client ID: PB-843-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 13:10
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.6		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-10
Client ID: PB-843-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 13:20
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.5		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-11
Client ID: PB-843-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 14:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.7		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-12
Client ID: PB-843-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 14:15
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.4		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-13
Client ID: PB-843-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/11/22 14:25
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.2		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-14
Client ID: PB-843-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 14:35
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.3		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-15
Client ID: PB-843-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 14:50
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.5		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-16
Client ID: PB-843-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 15:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.8		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-17
Client ID: PB-843-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 15:20
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.9		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-18
Client ID: DUP-40
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.3		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236817

Report Date: 07/18/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-18 QC Batch ID: WG1661670-1 QC Sample: L2236817-01 Client ID: PB-843-03-SS01						
Solids, Total	93.8	93.7	%	0		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236817
Report Date: 07/18/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236817-01A	Vial MeOH preserved	C	NA		2.8	Y	Absent		PA-8260HLW(14)
L2236817-01B	Vial water preserved	C	NA		2.8	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-01C	Vial water preserved	C	NA		2.8	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-01D	Plastic 2oz unpreserved for TS	C	NA		2.8	Y	Absent		TS(7)
L2236817-01E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.8	Y	Absent		PB-TI(180)
L2236817-01F	Glass 120ml/4oz unpreserved	C	NA		2.8	Y	Absent		PA-PAH(14)
L2236817-02A	Vial MeOH preserved	C	NA		2.8	Y	Absent		PA-8260HLW(14)
L2236817-02B	Vial water preserved	C	NA		2.8	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-02C	Vial water preserved	C	NA		2.8	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-02D	Plastic 2oz unpreserved for TS	C	NA		2.8	Y	Absent		TS(7)
L2236817-02E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.8	Y	Absent		PB-TI(180)
L2236817-02F	Glass 120ml/4oz unpreserved	C	NA		2.8	Y	Absent		PA-PAH(14)
L2236817-03A	Vial MeOH preserved	C	NA		2.8	Y	Absent		PA-8260HLW(14)
L2236817-03B	Vial water preserved	C	NA		2.8	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-03C	Vial water preserved	C	NA		2.8	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-03D	Plastic 2oz unpreserved for TS	C	NA		2.8	Y	Absent		TS(7)
L2236817-03E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.8	Y	Absent		PB-TI(180)
L2236817-03F	Glass 120ml/4oz unpreserved	C	NA		2.8	Y	Absent		PA-PAH(14)
L2236817-04A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2236817-04B	Vial water preserved	B	NA		3.5	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-04C	Vial water preserved	B	NA		3.5	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236817
Report Date: 07/18/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236817-04D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L2236817-04E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		PB-TI(180)
L2236817-04F	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		PA-PAH(14)
L2236817-05A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2236817-05B	Vial water preserved	B	NA		3.5	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-05C	Vial water preserved	B	NA		3.5	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-05D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L2236817-05E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		PB-TI(180)
L2236817-05F	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		PA-PAH(14)
L2236817-06A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2236817-06B	Vial water preserved	B	NA		3.5	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-06C	Vial water preserved	B	NA		3.5	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-06D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L2236817-06E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		PB-TI(180)
L2236817-06F	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		PA-PAH(14)
L2236817-07A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2236817-07B	Vial water preserved	B	NA		3.5	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-07C	Vial water preserved	B	NA		3.5	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-07D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L2236817-07E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		PB-TI(180)
L2236817-07F	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		PA-PAH(14)
L2236817-08A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-08B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-08C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-08D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-08E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-08F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-09A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

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Report Date: 07/18/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236817-09B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-09C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-09D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-09E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-09F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-10A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-10B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-10C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-10D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-10E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-10F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-11A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-11B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-11C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-11D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-11E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-11F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-12A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-12B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-12C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-12D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-12E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-12F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-13A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-13B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-13C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-13D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-13E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)

*Values in parentheses indicate holding time in days

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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236817-13F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-14A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-14B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)
L2236817-14C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)
L2236817-14D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-14E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-14F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-15A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-15B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)
L2236817-15C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)
L2236817-15D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-15E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-15F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-16A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-16B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)
L2236817-16C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)
L2236817-16D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-16E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-16F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-17A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-17B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)
L2236817-17C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)
L2236817-17D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-17E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-17F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-18A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-18B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)
L2236817-18C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236817-18D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-18E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-18F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-19A	Vial HCl preserved	A	NA		4.6	Y	Absent		8011(14),PA-8260(14)
L2236817-19B	Vial HCl preserved	A	NA		4.6	Y	Absent		8011(14),PA-8260(14)
L2236817-19C	Vial HCl preserved	A	NA		4.6	Y	Absent		8011(14),PA-8260(14)
L2236817-19D	Amber 250ml unpreserved	A	7	7	4.6	Y	Absent		PA-PAHSIM-LVI(7)
L2236817-19E	Amber 250ml unpreserved	A	7	7	4.6	Y	Absent		PA-PAHSIM-LVI(7)
L2236817-19F	Plastic 250ml HNO3 preserved	A	<2	<2	4.6	Y	Absent		PB-6020T-PPB(180)
L2236817-20A	Vial HCl preserved	A	NA		4.6	Y	Absent		8011(14),PA-8260(14)
L2236817-20B	Vial HCl preserved	A	NA		4.6	Y	Absent		8011(14),PA-8260(14)
L2236817-20C	Vial HCl preserved	A	NA		4.6	Y	Absent		8011(14),PA-8260(14)
L2236817-20D	Amber 250ml unpreserved	A	7	7	4.6	Y	Absent		PA-PAHSIM-LVI(7)
L2236817-20E	Amber 250ml unpreserved	A	7	7	4.6	Y	Absent		PA-PAHSIM-LVI(7)
L2236817-20F	Plastic 250ml HNO3 preserved	A	<2	<2	4.6	Y	Absent		PB-6020T-PPB(180)
L2236817-21A	Vial HCl preserved	C	NA		2.8	Y	Absent		8011(14),PA-8260(14)
L2236817-21B	Vial HCl preserved	C	NA		2.8	Y	Absent		8011(14),PA-8260(14)

*Values in parentheses indicate holding time in days

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GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

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Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236817
Project Number:	200.00135.006	**Report Date:**	07/18/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 3

Date Rec'd in Lab: 7/12/22

ALPHA Job #: L2236817

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193

Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client Info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS: SHORTLIST 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TOTAL # BOTTLES	Sample Specific Comments
36817 1	PB-843-03-5501	7/11	1000	S	TS		
2	PB-843-04-5501		1020				
3	PB-843-05-5501		1050				
4	PB-843-10-5501		1100				
5	PB-843-11-5501		1110				
6	PB-843-12-5501		1120				
7	PB-843-13-5501		1135				
8	PB-843-17-5501		1300				
9	PB-843-14-5501		1310				
10	PB-843-01-5501		1320				

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/11 16:24		7/11/22 16:24
	7/12/22		7/11 18:30
	7/11 2000		7/11/22 0140
	7/11/22		

7/12/22 0220

7/12/22 0220

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(HW) (rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/12/22

ALPHA Job #: L2236817

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SHORTLIST 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36817 11	PB-843-08-5501	7/11	1400	S	TS	
12	PB-843-02-5501		1415	S	TS	
13	PB-843-06-5501		1425	S	TS	
14	PB-843-07-5501		1435	S	TS	
15	PB-843-15-5501		1450	S	TS	
16	PB-843-09-5501		1500	S	TS	
17	PB-843-16-5501		1520	S	TS	
18	DUP-40		-	S	TS	
19	FB-071122-3		1530	W	TS	
20	FB-071122-4		1535	W	TS	

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/11 16:24		7/11/22 16:24
	7/11/22 2103		7/11/22 2103
7/12/22 0220			
7/12/22 0230		7/12/22 0230	

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(LG) (rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 3 OF 3

Date Rec'd in Lab: 7/12/22

ALPHA Job #: L2236817

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Vol Petrol SL 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36817 21	TB-071122	7/11	-	W	TS	

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
	7/12/22 0220		
	7/12/22 1610		7/11/22 1424
	7/12/22 2100		7/11-12 2100
	7/13/22 0220		7/12/22 0030

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

PADEP Short List Analytical Suites per Table III-5:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

ANALYTICAL REPORT

Lab Number:	L2236962
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/19/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236962
Report Date: 07/19/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2236962-01	PB-881-01-SS01	SOIL	PHILADELPHIA, PA	07/12/22 10:00	07/12/22
L2236962-02	PB-881-02-SS01	SOIL	PHILADELPHIA, PA	07/12/22 10:10	07/12/22
L2236962-03	PB-881-03-SS01	SOIL	PHILADELPHIA, PA	07/12/22 10:20	07/12/22
L2236962-04	PB-881-04-SS01	SOIL	PHILADELPHIA, PA	07/12/22 10:30	07/12/22
L2236962-05	PB-881-05-SS01	SOIL	PHILADELPHIA, PA	07/12/22 10:40	07/12/22
L2236962-06	PB-881-06-SS01	SOIL	PHILADELPHIA, PA	07/12/22 10:50	07/12/22
L2236962-07	PB-881-07-SS01	SOIL	PHILADELPHIA, PA	07/12/22 11:00	07/12/22
L2236962-08	PB-881-08-SS01	SOIL	PHILADELPHIA, PA	07/12/22 11:10	07/12/22
L2236962-09	PB-881-09-SS01	SOIL	PHILADELPHIA, PA	07/12/22 11:20	07/12/22
L2236962-10	PB-881-10-SS01	SOIL	PHILADELPHIA, PA	07/12/22 11:30	07/12/22
L2236962-11	PB-881-11-SS01	SOIL	PHILADELPHIA, PA	07/12/22 11:40	07/12/22
L2236962-12	PB-881-12-SS01	SOIL	PHILADELPHIA, PA	07/12/22 11:50	07/12/22
L2236962-13	PB-881-13-SS01	SOIL	PHILADELPHIA, PA	07/12/22 12:00	07/12/22
L2236962-14	PB-881-14-SS01	SOIL	PHILADELPHIA, PA	07/12/22 12:10	07/12/22
L2236962-15	PB-881-15-SS01	SOIL	PHILADELPHIA, PA	07/12/22 12:20	07/12/22
L2236962-16	PB-881-16-SS01	SOIL	PHILADELPHIA, PA	07/12/22 12:30	07/12/22
L2236962-17	PB-881-17-SS01	SOIL	PHILADELPHIA, PA	07/12/22 12:40	07/12/22
L2236962-18	PB-881-18-SS01	SOIL	PHILADELPHIA, PA	07/12/22 12:50	07/12/22
L2236962-19	FB-071222-1	WATER	PHILADELPHIA, PA	07/12/22 14:00	07/12/22
L2236962-20	FB-071222-2	WATER	PHILADELPHIA, PA	07/12/22 14:10	07/12/22
L2236962-21	DUP-41	SOIL	PHILADELPHIA, PA	07/12/22 00:00	07/12/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236962
Project Number:	200.00135.006	**Report Date:**	07/19/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236962
Project Number:	200.00135.006	**Report Date:**	07/19/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2236962-01: The internal standard (IS) response(s) for 1,4-dichlorobenzene-d4 (43%) and the surrogate recovery for 4-bromofluorobenzene (3132%) were outside the acceptance criteria due to obvious interferences. A copy of the chromatogram is included as an attachment to this report. The sample was analyzed as a High Level Methanol in order to quantitate results within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial Low Level analysis; however, since the IS response was below method criteria, all associated compounds are considered to have a potentially high bias. The results of both analyses are reported.

L2236962-07: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (507%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236962-07: The sample was analyzed as a High Level Methanol in order to quantitate results within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial Low Level analysis. The results of both analyses are reported.

L2236962-10: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (164%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236962-21: The sample was analyzed as a High Level Methanol in order to quantitate results within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial Low Level analysis. The results of both analyses are reported.

L2236962-21: The sample was received in the appropriate containers (vials) for the Volatile Organics by EPA Method 5035/8260 analysis; however, they could not be used for analysis. With the client's authorization, a sample aliquot was taken from an unpreserved container (inappropriate plastic) and preserved appropriately.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236962
Project Number:	200.00135.006	**Report Date:**	07/19/22

Case Narrative (continued)

L2236962-21: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (786%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Semivolatile Organics

L2236962-01D and -10D: The sample has elevated detection limits due to the dilution required by the sample matrix.

Total Metals

L2236962-03, -04, -11, -13, -14, and -16: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by matrix interferences encountered during analysis.

The WG1662480-3 MS recoveries, performed on L2236962-01, are outside the acceptance criteria for lead (51%). A post digestion spike was performed and yielded unacceptable recoveries for lead (50%). The serial dilution recovery was not applicable; therefore, this element fails the matrix test and the result reported in the native sample should be considered estimated.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Steven Gniadek

Title: Technical Director/Representative Date: 07/19/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-01
Client ID: PB-881-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 20:40
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.013	1
Benzene	ND		mg/kg	0.032	0.010	1
1,2-Dichloroethane	ND		mg/kg	0.063	0.016	1
Toluene	ND		mg/kg	0.063	0.034	1
1,2-Dibromoethane	ND		mg/kg	0.032	0.018	1
Ethylbenzene	ND		mg/kg	0.063	0.0089	1
p/m-Xylene	ND		mg/kg	0.13	0.035	1
o-Xylene	ND		mg/kg	0.063	0.018	1
Xylenes, Total	ND		mg/kg	0.063	0.018	1
Isopropylbenzene	ND		mg/kg	0.063	0.0069	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.13	0.012	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.13	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-01
Client ID: PB-881-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 11:45
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00087	0.00022	1
Toluene	ND		mg/kg	0.00087	0.00047	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	ND		mg/kg	0.00087	0.00012	1
p/m-Xylene	0.044		mg/kg	0.0017	0.00048	1
o-Xylene	0.011		mg/kg	0.00087	0.00025	1
Xylenes, Total	0.055		mg/kg	0.00087	0.00025	1
Isopropylbenzene	0.0032		mg/kg	0.00087	0.00009	1
1,3,5-Trimethylbenzene	0.091		mg/kg	0.0017	0.00017	1
1,2,4-Trimethylbenzene	0.72	E	mg/kg	0.0017	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	**3130**	Q	70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-02
Client ID: PB-881-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 09:42
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00053	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00057	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00059	1
o-Xylene	ND		mg/kg	0.0010	0.00031	1
Xylenes, Total	ND		mg/kg	0.0010	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-03
Client ID: PB-881-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:20
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 10:10
Analyst: MKS
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00093	0.00024	1
Toluene	ND		mg/kg	0.00093	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00093	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00052	1
o-Xylene	ND		mg/kg	0.00093	0.00027	1
Xylenes, Total	ND		mg/kg	0.00093	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00093	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-04
Client ID: PB-881-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 10:38
Analyst: MKS
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00021	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-05
Client ID: PB-881-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 11:07
Analyst: MKS
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0012	J	mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00098	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00028	1
Xylenes, Total	ND		mg/kg	0.00098	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-06
Client ID: PB-881-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 11:36
Analyst: MKS
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00056	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-07
Client ID: PB-881-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 21:10
Analyst: NLK
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.084	0.0085	1
Benzene	ND		mg/kg	0.021	0.0070	1
1,2-Dichloroethane	ND		mg/kg	0.042	0.011	1
Toluene	ND		mg/kg	0.042	0.023	1
1,2-Dibromoethane	ND		mg/kg	0.021	0.012	1
Ethylbenzene	ND		mg/kg	0.042	0.0060	1
p/m-Xylene	0.038	J	mg/kg	0.084	0.024	1
o-Xylene	ND		mg/kg	0.042	0.012	1
Xylenes, Total	0.038	J	mg/kg	0.042	0.012	1
Isopropylbenzene	0.0089	J	mg/kg	0.042	0.0046	1
1,3,5-Trimethylbenzene	0.22		mg/kg	0.084	0.0081	1
1,2,4-Trimethylbenzene	0.47		mg/kg	0.084	0.014	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-07
Client ID: PB-881-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 12:12
Analyst: NLK
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0015	0.00016	1
Benzene	ND		mg/kg	0.00038	0.00013	1
1,2-Dichloroethane	ND		mg/kg	0.00077	0.00020	1
Toluene	ND		mg/kg	0.00077	0.00042	1
1,2-Dibromoethane	ND		mg/kg	0.00038	0.00023	1
Ethylbenzene	0.0033		mg/kg	0.00077	0.00011	1
p/m-Xylene	0.16		mg/kg	0.0015	0.00043	1
o-Xylene	0.0042		mg/kg	0.00077	0.00022	1
Xylenes, Total	0.16		mg/kg	0.00077	0.00022	1
Isopropylbenzene	0.042		mg/kg	0.00077	0.00008	1
1,3,5-Trimethylbenzene	1.1	E	mg/kg	0.0015	0.00015	1
1,2,4-Trimethylbenzene	2.1	E	mg/kg	0.0015	0.00026	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	**507**	Q	70-130
Dibromofluoromethane	107		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-08
Client ID: PB-881-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 12:04
Analyst: MKS
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00063	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00065	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-09
Client ID: PB-881-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:20
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 12:32
Analyst: MKS
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00024	1
Benzene	ND		mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00064	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00066	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-10
Client ID: PB-881-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 17:42
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.21	0.021	1
Benzene	ND		mg/kg	0.052	0.017	1
1,2-Dichloroethane	ND		mg/kg	0.10	0.027	1
Toluene	ND		mg/kg	0.10	0.057	1
1,2-Dibromoethane	ND		mg/kg	0.052	0.031	1
Ethylbenzene	0.067	J	mg/kg	0.10	0.015	1
p/m-Xylene	0.37		mg/kg	0.21	0.059	1
o-Xylene	0.086	J	mg/kg	0.10	0.030	1
Xylenes, Total	0.46	J	mg/kg	0.10	0.030	1
Isopropylbenzene	0.26		mg/kg	0.10	0.011	1
1,3,5-Trimethylbenzene	3.6		mg/kg	0.21	0.020	1
1,2,4-Trimethylbenzene	9.4		mg/kg	0.21	0.035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	**164**	Q	70-130
Dibromofluoromethane	90		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-11
Client ID: PB-881-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 13:00
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00053	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00027	1
Toluene	ND		mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00060	1
o-Xylene	ND		mg/kg	0.0011	0.00031	1
Xylenes, Total	ND		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-12
Client ID: PB-881-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 13:28
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-13
Client ID: PB-881-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 13:56
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00099	0.00025	1
Toluene	ND		mg/kg	0.00099	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00099	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00099	0.00029	1
Xylenes, Total	ND		mg/kg	0.00099	0.00029	1
Isopropylbenzene	ND		mg/kg	0.00099	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-14
Client ID: PB-881-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 14:24
Analyst: MKS
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	ND		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00090	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00090	0.00026	1
Xylenes, Total	ND		mg/kg	0.00090	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-15
Client ID: PB-881-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:20
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 16:18
Analyst: MKS
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00054	J	mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00096	0.00024	1
Toluene	ND		mg/kg	0.00096	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00096	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00096	0.00028	1
Xylenes, Total	ND		mg/kg	0.00096	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00096	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-16
Client ID: PB-881-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 14:52
Analyst: MKS
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.00017	J	mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-17
Client ID: PB-881-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 15:21
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-18
Client ID: PB-881-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 15:49
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00098	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00028	1
Xylenes, Total	ND		mg/kg	0.00098	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-19
Client ID: FB-071222-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 14:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 12:18
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/14/22 14:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-19
Client ID: FB-071222-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 14:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/15/22 10:07
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	123		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-20
Client ID: FB-071222-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 14:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 12:25
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/14/22 14:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-20
Client ID: FB-071222-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 14:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/15/22 10:30
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-21
Client ID: DUP-41
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 18:11
Analyst: MKS
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.013	1
Benzene	ND		mg/kg	0.032	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.065	0.017	1
Toluene	ND		mg/kg	0.065	0.035	1
1,2-Dibromoethane	ND		mg/kg	0.032	0.019	1
Ethylbenzene	ND		mg/kg	0.065	0.0092	1
p/m-Xylene	0.037	J	mg/kg	0.13	0.036	1
o-Xylene	ND		mg/kg	0.065	0.019	1
Xylenes, Total	0.037	J	mg/kg	0.065	0.019	1
Isopropylbenzene	0.012	J	mg/kg	0.065	0.0071	1
1,3,5-Trimethylbenzene	0.45		mg/kg	0.13	0.012	1
1,2,4-Trimethylbenzene	1.0		mg/kg	0.13	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-21
Client ID: DUP-41
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 12:39
Analyst: NLK
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00099	0.00026	1
Toluene	0.0018		mg/kg	0.00099	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	0.0017		mg/kg	0.00099	0.00014	1
p/m-Xylene	0.024		mg/kg	0.0020	0.00056	1
o-Xylene	0.0026		mg/kg	0.00099	0.00029	1
Xylenes, Total	0.027		mg/kg	0.00099	0.00029	1
Isopropylbenzene	0.028		mg/kg	0.00099	0.00011	1
1,3,5-Trimethylbenzene	1.3	E	mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	0.84	E	mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	**786**	Q	70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/15/22 10:38
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/14/22 14:02

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 19-20 Batch: WG1662837-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 09:14
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-06,08-09,11-18 Batch: WG1664129-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 09:14
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 10,21 Batch: WG1664132-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 09:44
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 19-20 Batch: WG1664179-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/18/22 13:35
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01,07 Batch: WG1664660-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/19/22 11:18
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,07,21 Batch: WG1664816-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	75		70-130
Dibromofluoromethane	105		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236962

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 19-20 Batch: WG1662837-2								
1,2-Dibromoethane	102		-		80-120	-		20	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236962
Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-06,08-09,11-18 Batch: WG1664129-3 WG1664129-4								
Methyl tert butyl ether	115		114		66-130	1		30
Benzene	103		102		70-130	1		30
1,2-Dichloroethane	97		96		70-130	1		30
Toluene	103		102		70-130	1		30
1,2-Dibromoethane	104		104		70-130	0		30
Ethylbenzene	100		99		70-130	1		30
p/m-Xylene	100		99		70-130	1		30
o-Xylene	101		100		70-130	1		30
Isopropylbenzene	100		99		70-130	1		30
1,3,5-Trimethylbenzene	98		97		70-130	1		30
1,2,4-Trimethylbenzene	101		100		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	101		102		70-130
4-Bromofluorobenzene	106		106		70-130
Dibromofluoromethane	92		93		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236962
Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 10,21 Batch: WG1664132-3 WG1664132-4								
Methyl tert butyl ether	115		114		66-130	1		30
Benzene	103		102		70-130	1		30
1,2-Dichloroethane	97		96		70-130	1		30
Toluene	103		102		70-130	1		30
1,2-Dibromoethane	104		104		70-130	0		30
Ethylbenzene	100		99		70-130	1		30
p/m-Xylene	100		99		70-130	1		30
o-Xylene	101		100		70-130	1		30
Isopropylbenzene	100		99		70-130	1		30
1,3,5-Trimethylbenzene	98		97		70-130	1		30
1,2,4-Trimethylbenzene	101		100		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	101		102		70-130
4-Bromofluorobenzene	106		106		70-130
Dibromofluoromethane	92		93		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236962

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 19-20 Batch: WG1664179-3 WG1664179-4								
Methyl tert butyl ether	94		96		63-130	2		20
Benzene	94		95		70-130	1		20
1,2-Dichloroethane	93		94		70-130	1		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
Isopropylbenzene	110		120		70-130	9		20
1,3,5-Trimethylbenzene	100		110		64-130	10		20
1,2,4-Trimethylbenzene	100		110		70-130	10		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		95		70-130
Toluene-d8	110		109		70-130
4-Bromofluorobenzene	121		123		70-130
Dibromofluoromethane	91		91		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236962
Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01,07 Batch: WG1664660-3 WG1664660-4								
Methyl tert butyl ether	115		118		66-130	3		30
Benzene	108		108		70-130	0		30
1,2-Dichloroethane	96		100		70-130	4		30
Toluene	108		109		70-130	1		30
1,2-Dibromoethane	106		110		70-130	4		30
Ethylbenzene	106		107		70-130	1		30
p/m-Xylene	107		108		70-130	1		30
o-Xylene	106		108		70-130	2		30
Isopropylbenzene	111		110		70-130	1		30
1,3,5-Trimethylbenzene	107		107		70-130	0		30
1,2,4-Trimethylbenzene	107		108		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		96		70-130
Toluene-d8	102		103		70-130
4-Bromofluorobenzene	106		106		70-130
Dibromofluoromethane	91		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236962
Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,07,21 Batch: WG1664816-3 WG1664816-4								
Methyl tert butyl ether	92		91		66-130	1		30
Benzene	96		94		70-130	2		30
1,2-Dichloroethane	90		89		70-130	1		30
Toluene	95		96		70-130	1		30
1,2-Dibromoethane	98		99		70-130	1		30
Ethylbenzene	94		96		70-130	2		30
p/m-Xylene	100		101		70-130	1		30
o-Xylene	96		97		70-130	1		30
Isopropylbenzene	92		92		70-130	0		30
1,3,5-Trimethylbenzene	92		91		70-130	1		30
1,2,4-Trimethylbenzene	89		89		70-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		97		70-130
Toluene-d8	98		101		70-130
4-Bromofluorobenzene	83		82		70-130
Dibromofluoromethane	106		105		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-01 D
Client ID: PB-881-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/19/22 15:12
Analyst: JG
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.26	J	mg/kg	0.88	0.11	5
Fluorene	0.19	J	mg/kg	0.88	0.085	5
Phenanthrene	0.16	J	mg/kg	0.52	0.11	5
Anthracene	ND		mg/kg	0.52	0.17	5
Pyrene	0.15	J	mg/kg	0.52	0.087	5
Benzo(a)anthracene	ND		mg/kg	0.52	0.099	5
Chrysene	0.22	J	mg/kg	0.52	0.091	5
Benzo(b)fluoranthene	ND		mg/kg	0.52	0.15	5
Benzo(a)pyrene	ND		mg/kg	0.70	0.21	5
Benzo(ghi)perylene	ND		mg/kg	0.70	0.10	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	51		23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	66		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-02
Client ID: PB-881-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 17:07
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	91		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-03
Client ID: PB-881-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:20
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 17:31
Analyst: EK
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	1.2		mg/kg	0.17	0.021	1
Fluorene	0.51		mg/kg	0.17	0.017	1
Phenanthrene	1.0		mg/kg	0.10	0.021	1
Anthracene	0.097	J	mg/kg	0.10	0.033	1
Pyrene	0.15		mg/kg	0.10	0.017	1
Benzo(a)anthracene	0.040	J	mg/kg	0.10	0.019	1
Chrysene	0.20		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	91		30-120
4-Terphenyl-d14	95		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-04
Client ID: PB-881-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 17:55
Analyst: EK
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.048	J	mg/kg	0.19	0.023	1
Fluorene	0.018	J	mg/kg	0.19	0.018	1
Phenanthrene	0.21		mg/kg	0.11	0.023	1
Anthracene	0.047	J	mg/kg	0.11	0.037	1
Pyrene	0.28		mg/kg	0.11	0.019	1
Benzo(a)anthracene	0.23		mg/kg	0.11	0.021	1
Chrysene	0.22		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	0.29		mg/kg	0.11	0.032	1
Benzo(a)pyrene	0.25		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	0.14	J	mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	71		30-120
4-Terphenyl-d14	72		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-05
Client ID: PB-881-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 18:19
Analyst: EK
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	71		30-120
4-Terphenyl-d14	77		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-06
Client ID: PB-881-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 18:43
Analyst: EK
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	64		30-120
4-Terphenyl-d14	74		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-07
Client ID: PB-881-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 19:07
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.048	J	mg/kg	0.17	0.020	1
Fluorene	0.23		mg/kg	0.17	0.016	1
Phenanthrene	0.48		mg/kg	0.10	0.020	1
Anthracene	0.040	J	mg/kg	0.10	0.033	1
Pyrene	0.064	J	mg/kg	0.10	0.017	1
Benzo(a)anthracene	0.022	J	mg/kg	0.10	0.019	1
Chrysene	0.087	J	mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.041	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	109		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	81		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-08
Client ID: PB-881-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 19:32
Analyst: EK
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	77		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-09
Client ID: PB-881-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:20
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 19:56
Analyst: EK
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	84		30-120
4-Terphenyl-d14	80		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-10 D
Client ID: PB-881-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/19/22 15:36
Analyst: JG
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	4.4		mg/kg	0.86	0.10	5
Fluorene	1.1		mg/kg	0.86	0.083	5
Phenanthrene	1.9		mg/kg	0.51	0.10	5
Anthracene	ND		mg/kg	0.51	0.17	5
Pyrene	0.23	J	mg/kg	0.51	0.085	5
Benzo(a)anthracene	0.17	J	mg/kg	0.51	0.097	5
Chrysene	0.34	J	mg/kg	0.51	0.089	5
Benzo(b)fluoranthene	ND		mg/kg	0.51	0.14	5
Benzo(a)pyrene	ND		mg/kg	0.69	0.21	5
Benzo(ghi)perylene	ND		mg/kg	0.69	0.10	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	81		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-11
Client ID: PB-881-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 20:44
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	77		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-12
Client ID: PB-881-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 21:08
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	89		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-13
Client ID: PB-881-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 21:32
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-14
Client ID: PB-881-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 21:56
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	85		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-15
Client ID: PB-881-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:20
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 22:20
Analyst: EK
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-16
Client ID: PB-881-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 22:44
Analyst: EK
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-17
Client ID: PB-881-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 23:08
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.021	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	92		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-18
Client ID: PB-881-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 23:32
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	84		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-19
Client ID: FB-071222-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 14:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/15/22 15:31
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/13/22 21:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	30		23-120
2-Fluorobiphenyl	31		15-120
4-Terphenyl-d14	**34**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-20
Client ID: FB-071222-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 14:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/15/22 15:47
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/13/22 21:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	30		23-120
2-Fluorobiphenyl	31		15-120
4-Terphenyl-d14	**31**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-21
Client ID: DUP-41
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 23:56
Analyst: EK
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.60		mg/kg	0.18	0.022	1
Fluorene	0.41		mg/kg	0.18	0.017	1
Phenanthrene	0.88		mg/kg	0.11	0.022	1
Anthracene	0.063	J	mg/kg	0.11	0.035	1
Pyrene	0.10	J	mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.031	J	mg/kg	0.11	0.020	1
Chrysene	0.15		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	85		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/14/22 13:22
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-18,21 Batch: WG1662493-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.10	0.020
Anthracene	ND		mg/kg	0.10	0.032
Pyrene	ND		mg/kg	0.10	0.016
Benzo(a)anthracene	ND		mg/kg	0.10	0.019
Chrysene	ND		mg/kg	0.10	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.020

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	90		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/15/22 15:15
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/13/22 21:10

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 19-20 Batch: WG1662556-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	31		23-120
2-Fluorobiphenyl	32		15-120
4-Terphenyl-d14	**34**	Q	41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236962

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-18,21 Batch: WG1662493-2 WG1662493-3								
Naphthalene	81		83		40-140	2		50
Fluorene	85		87		40-140	2		50
Phenanthrene	86		86		40-140	0		50
Anthracene	89		89		40-140	0		50
Pyrene	88		87		35-142	1		50
Benzo(a)anthracene	93		93		40-140	0		50
Chrysene	92		92		40-140	0		50
Benzo(b)fluoranthene	100		99		40-140	1		50
Benzo(a)pyrene	102		102		40-140	0		50
Benzo(ghi)perylene	90		92		40-140	2		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	87		89		23-120
2-Fluorobiphenyl	79		79		30-120
4-Terphenyl-d14	88		85		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236962

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 19-20 Batch: WG1662556-2 WG1662556-3								
Naphthalene	57		57		40-140	0		40
Fluorene	58		62		40-140	7		40
Phenanthrene	57		61		40-140	7		40
Anthracene	57		61		40-140	7		40
Pyrene	61		64		26-127	5		40
Benzo(a)anthracene	59		62		40-140	5		40
Chrysene	57		63		40-140	10		40
Benzo(b)fluoranthene	60		70		40-140	15		40
Benzo(a)pyrene	61		65		40-140	6		40
Benzo(ghi)perylene	58		61		40-140	5		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	27		29		23-120
2-Fluorobiphenyl	29		30		15-120
4-Terphenyl-d14	**30**	Q	**33**	Q	41-149

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-01
Client ID: PB-881-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 10:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.62	J	mg/kg	2.00	0.107	1	07/13/22 21:00	07/18/22 12:16	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-02
Client ID: PB-881-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 10:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.49	J	mg/kg	2.04	0.109	1	07/13/22 21:00	07/18/22 12:49	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-03
Client ID: PB-881-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 10:20
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.78	J	mg/kg	4.15	0.223	2	07/13/22 21:00	07/18/22 13:45	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-04
Client ID: PB-881-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 10:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	89.2		mg/kg	22.8	1.22	10	07/13/22 21:00	07/18/22 14:27	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-05
Client ID: PB-881-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 10:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.70		mg/kg	2.20	0.118	1	07/13/22 21:00	07/18/22 13:03	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-06
Client ID: PB-881-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 10:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.45	J	mg/kg	2.02	0.108	1	07/13/22 21:00	07/18/22 13:08	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-07
Client ID: PB-881-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.48	J	mg/kg	1.98	0.106	1	07/13/22 21:00	07/18/22 13:12	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-08
Client ID: PB-881-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.67		mg/kg	2.43	0.130	1	07/13/22 21:00	07/18/22 13:17	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-09
Client ID: PB-881-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:20
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.12		mg/kg	2.29	0.123	1	07/13/22 21:00	07/18/22 13:22	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-10
Client ID: PB-881-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.22	J	mg/kg	2.04	0.109	1	07/13/22 21:00	07/18/22 13:26	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-11
Client ID: PB-881-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.35	J	mg/kg	4.14	0.222	2	07/13/22 21:00	07/18/22 13:55	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-12
Client ID: PB-881-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.40	J	mg/kg	2.06	0.110	1	07/13/22 21:00	07/18/22 13:59	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-13
Client ID: PB-881-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 12:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.20	J	mg/kg	4.20	0.225	2	07/13/22 21:00	07/18/22 14:55	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-14
Client ID: PB-881-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 12:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.02	J	mg/kg	3.98	0.214	2	07/13/22 21:00	07/18/22 15:00	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-15
Client ID: PB-881-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 12:20
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.85		mg/kg	2.36	0.126	1	07/13/22 21:00	07/18/22 14:14	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-16
Client ID: PB-881-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 12:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	10.7		mg/kg	4.80	0.257	2	07/13/22 21:00	07/18/22 15:05	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-17
Client ID: PB-881-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 12:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.40	J	mg/kg	2.05	0.110	1	07/13/22 21:00	07/18/22 14:23	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-18
Client ID: PB-881-18-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 12:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.46	J	mg/kg	2.05	0.110	1	07/13/22 21:00	07/18/22 14:41	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-19
Client ID: FB-071222-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 14:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/13/22 17:44	07/17/22 15:49	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-20
Client ID: FB-071222-2
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 14:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/13/22 17:44	07/17/22 15:58	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-21
Client ID: DUP-41
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.48	J	mg/kg	2.05	0.110	1	07/13/22 21:00	07/18/22 14:46	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 19-20 Batch: WG1662468-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/13/22 17:44	07/17/22 14:50	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-18,21 Batch: WG1662480-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/13/22 21:00	07/18/22 11:53	1,6010D	NB

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236962

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 Batch: WG1662468-2								
Lead, Total	103		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-18,21 Batch: WG1662480-2 SRM Lot Number: D113-540								
Lead, Total	76		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236962
Report Date: 07/19/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 QC Batch ID: WG1662468-3 QC Sample: L2236962-19 Client ID: FB-071222-1												
Lead, Total	ND	530	530.0	100		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-18,21 QC Batch ID: WG1662480-3 QC Sample: L2236962-01 Client ID: PB-881-01-SS01												
Lead, Total	1.62J	43.9	22.6	**51**	Q	-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236962
Report Date: 07/19/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 QC Batch ID: WG1662468-4 QC Sample: L2236962-19 Client ID: FB-071222-1						
Lead, Total	ND	ND	ug/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-18,21 QC Batch ID: WG1662480-4 QC Sample: L2236962-01 Client ID: PB-881-01-SS01						
Lead, Total	1.62J	1.66J	mg/kg	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-01
Client ID: PB-881-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/12/22 10:00
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.9		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-02
Client ID: PB-881-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 10:10
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.9		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-03
Client ID: PB-881-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 10:20
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.2		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-04
Client ID: PB-881-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 10:30
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.0		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-05
Client ID: PB-881-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 10:40
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.8		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-06
Client ID: PB-881-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 10:50
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.8		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-07
Client ID: PB-881-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 11:00
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.4		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-08
Client ID: PB-881-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 11:10
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.6		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-09
Client ID: PB-881-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 11:20
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.0		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-10
Client ID: PB-881-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/12/22 11:30
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.1		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-11
Client ID: PB-881-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 11:40
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.5		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-12
Client ID: PB-881-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 11:50
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.8		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-13
Client ID: PB-881-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 12:00
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.2		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-14
Client ID: PB-881-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 12:10
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.1		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-15
Client ID: PB-881-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 12:20
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.4		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-16
Client ID: PB-881-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 12:30
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.9		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-17
Client ID: PB-881-17-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 12:40
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.7		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-18
Client ID: PB-881-18-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 12:50
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.8		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-21
Client ID: DUP-41
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.0		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236962

Report Date: 07/19/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-18,21 QC Batch ID: WG1662302-1 QC Sample: L2236962-01 Client ID: PB-881-01-SS01						
Solids, Total	94.9	94.5	%	0		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236962
Report Date: 07/19/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236962-01A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2236962-01B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260H(14),PA-8260HLW(14)
L2236962-01C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260H(14),PA-8260HLW(14)
L2236962-01D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-01F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-02A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260HLW(14)
L2236962-02B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-02C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-02D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-02F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-03A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260HLW(14)
L2236962-03B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-03C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-03D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-03F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-04A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260HLW(14)
L2236962-04B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-04C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-04D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236962-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-04F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-05A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260HLW(14)
L2236962-05B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-05C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-05D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-05F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-06A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260HLW(14)
L2236962-06B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-06C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-06D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-06F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-07A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2236962-07B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260H(14),PA-8260HLW(14)
L2236962-07C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260H(14),PA-8260HLW(14)
L2236962-07D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-07E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-07F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-08A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260HLW(14)
L2236962-08B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-08C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-08D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-08E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-08F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-09A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260HLW(14)
L2236962-09B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236962
Report Date: 07/19/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236962-09C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-09D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-09E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-09F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-10A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260HLW(14)
L2236962-10B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-10C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-10D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-10E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-10F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-11A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260HLW(14)
L2236962-11B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-11C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-11D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-11E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-11F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-12A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260HLW(14)
L2236962-12B	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-12C	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-12D	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2236962-12E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		PB-TI(180)
L2236962-12F	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		PA-PAH(14)
L2236962-13A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260HLW(14)
L2236962-13B	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-13C	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-13D	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2236962-13E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		PB-TI(180)
L2236962-13F	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		PA-PAH(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236962
Report Date: 07/19/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236962-14A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260HLW(14)
L2236962-14B	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-14C	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-14D	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2236962-14E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		PB-TI(180)
L2236962-14F	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		PA-PAH(14)
L2236962-15A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260HLW(14)
L2236962-15B	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-15C	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-15D	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2236962-15E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		PB-TI(180)
L2236962-15F	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		PA-PAH(14)
L2236962-16A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260HLW(14)
L2236962-16B	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-16C	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-16D	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2236962-16E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		PB-TI(180)
L2236962-16F	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		PA-PAH(14)
L2236962-17A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260HLW(14)
L2236962-17B	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-17C	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-17D	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2236962-17E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		PB-TI(180)
L2236962-17F	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		PA-PAH(14)
L2236962-18A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260HLW(14)
L2236962-18B	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-18C	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-18D	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236962
Report Date: 07/19/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236962-18E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		PB-TI(180)
L2236962-18F	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		PA-PAH(14)
L2236962-19A	Vial HCl preserved	B	NA		3.8	Y	Absent		PA-8260(14)
L2236962-19B	Vial HCl preserved	B	NA		3.8	Y	Absent		PA-8260(14)
L2236962-19C	Vial HCl preserved	B	NA		3.8	Y	Absent		8011(14)
L2236962-19D	Plastic 250ml HNO3 preserved	B	<2	<2	3.8	Y	Absent		PB-6020T-PPB(180)
L2236962-19E	Amber 250ml unpreserved	B	7	7	3.8	Y	Absent		PA-PAHSIM-LVI(7)
L2236962-19F	Amber 250ml unpreserved	B	7	7	3.8	Y	Absent		PA-PAHSIM-LVI(7)
L2236962-20A	Vial HCl preserved	B	NA		3.8	Y	Absent		PA-8260(14)
L2236962-20B	Vial HCl preserved	B	NA		3.8	Y	Absent		PA-8260(14)
L2236962-20C	Vial HCl preserved	B	NA		3.8	Y	Absent		8011(14)
L2236962-20D	Plastic 250ml HNO3 preserved	B	<2	<2	3.8	Y	Absent		PB-6020T-PPB(180)
L2236962-20E	Amber 250ml unpreserved	B	7	7	3.8	Y	Absent		PA-PAHSIM-LVI(7)
L2236962-20F	Amber 250ml unpreserved	B	7	7	3.8	Y	Absent		PA-PAHSIM-LVI(7)
L2236962-21A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2236962-21B	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260H(14),PA-8260HLW(14)
L2236962-21C	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260H(14),PA-8260HLW(14)
L2236962-21D	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2236962-21E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		PB-TI(180)
L2236962-21F	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		PA-PAH(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236962
Project Number:	200.00135.006	**Report Date:**	07/19/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236962
Project Number:	200.00135.006	**Report Date:**	07/19/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236962
Project Number:	200.00135.006	**Report Date:**	07/19/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236962
Project Number:	200.00135.006	**Report Date:**	07/19/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 3

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/13/22

ALPHA Job #: L2236962

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36962-01	PB-881-01-5501	7/12/22	1000	S	DN	
02	PB-881-02-5501		1010			
03	PB-881-03-5501		1020			
04	PB-881-04-5501		1030			
05	PB-881-05-5501		1040			
06	PB-881-06-5501		1050			
07	PB-881-07-5501		1100			
08	PB-881-08-5501		1110			
09	PB-881-09-5501		1120			
10	PB-881-10-5501		1130			

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/12/22 1455	DAL	7/12/22 1455
	7/12/22 1800		7/12/22 1800
	7/13/22 0210		7/13/22 0210
			7/13/22 0045

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(R) (rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/13/22

ALPHA Job #: L2236962

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program: Criteria

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36962-11	PB-881-11-5501	7/12/22	1140	S	CA	
12	PB-881-12-5501		1150			
13	PB-881-13-5501		1200			
14	PB-881-14-5501		1210			
15	PB-881-15-5501		1220			
16	PB-881-16-5501		1230			
17	PB-881-17-5501		1240			
18	PB-881-18-5501		1250			
19	FB-071222-1		1400	W		
20	FB-071222-2	↓	1410	↓	↓	

Container Type: G

Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
	7/12/22 1455		7/12/22 1455
	7/12/22 1801		7-12 1801
	7-12 2101		7/12/22 2100
	7/12/22 2110		7/13/22 0045

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(HC) (rev. 3-JAN-12)

CHAIN OF CUSTODY

PAGE 3 OF 3

Date Rec'd in Lab: 7/13/22

ALPHA Job #: L2236963

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5 ✓

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36962-21	DUP-41	7/12/22	—	S	AL	

Container Type: — — G — — — — — — — — —

Preservative: — — — — — — — — — — — —

Relinquished By:	Date/Time	Received By:	Date/Time
	7/12/22 1455		7/12/22 1455
	7/12/22 1810		7/12/22 1810
	7/13/22 0210		7/13/22 0215

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

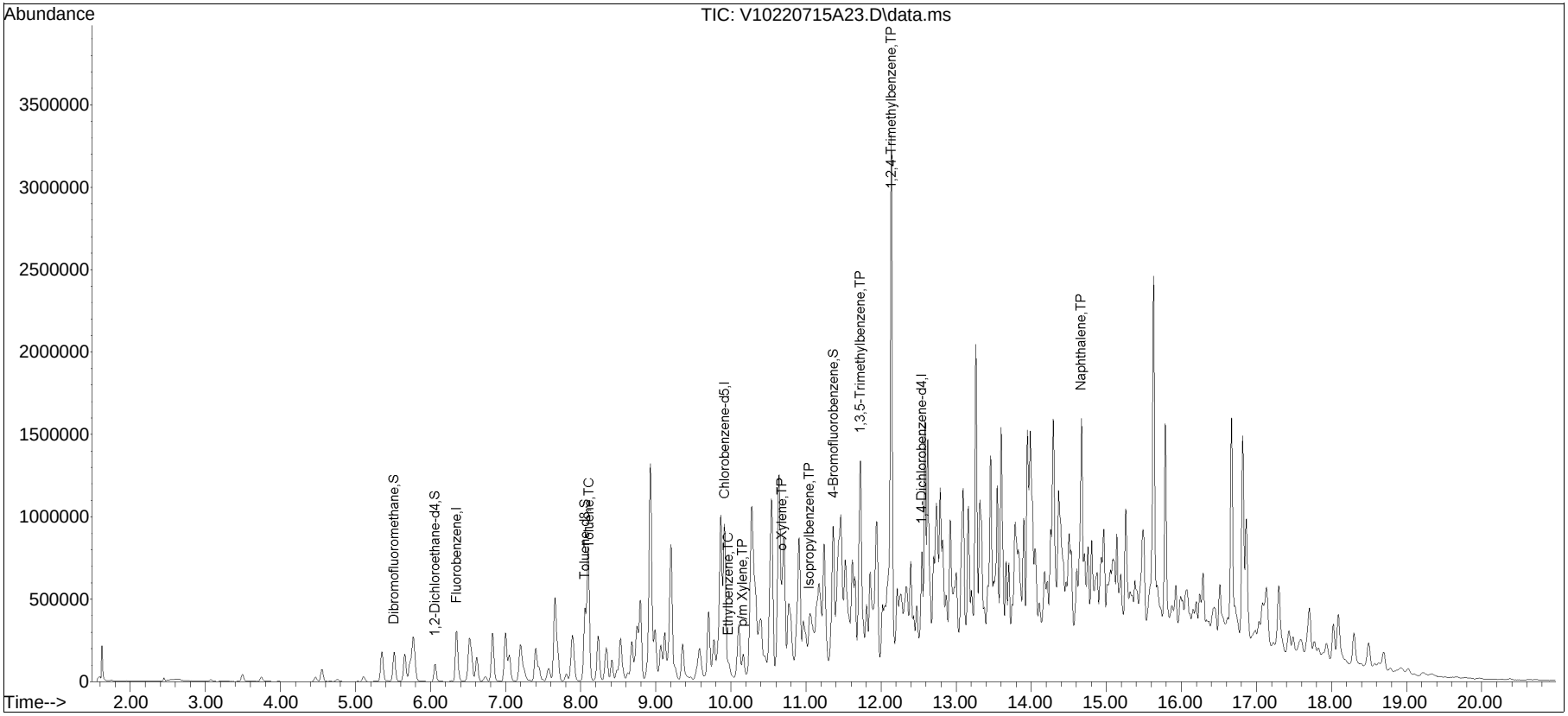
FORM NO: 01-01(LN4) (rev. 9-JAN-12)

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA110\2022\220715A\
Data File : V10220715A23.D
Acq On : 15 Jul 2022 5:42 pm
Operator : VOA110:MKS
Sample : l2236962-10,31h,2.57,5,0.100,,a,r2f
Misc : WG1664132,ICAL18890
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Jul 16 16:58:01 2022
Quant Method : I:\VOLATILES\VOA110\2022\220715A\V110_220401N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 04 06:52:50 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list15A\V10220715A01.D•



ANALYTICAL REPORT

Lab Number:	L2236966
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/19/22

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Eight Walkup Drive, Westborough, MA 01581-1019
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Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236966
Report Date: 07/19/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2236966-01	PB-841-01-SS01	SOIL	PHILADELPHIA, PA	07/12/22 09:30	07/12/22
L2236966-02	PB-841-02-SS01	SOIL	PHILADELPHIA, PA	07/12/22 09:50	07/12/22
L2236966-03	PB-841-03-SS01	SOIL	PHILADELPHIA, PA	07/12/22 10:10	07/12/22
L2236966-04	PB-841-04-SS01	SOIL	PHILADELPHIA, PA	07/12/22 10:30	07/12/22
L2236966-05	PB-841-05-SS01	SOIL	PHILADELPHIA, PA	07/12/22 10:50	07/12/22
L2236966-06	PB-841-06-SS01	SOIL	PHILADELPHIA, PA	07/12/22 11:10	07/12/22
L2236966-07	PB-841-07-SS01	SOIL	PHILADELPHIA, PA	07/12/22 11:30	07/12/22
L2236966-08	PB-841-08-SS01	SOIL	PHILADELPHIA, PA	07/12/22 11:50	07/12/22
L2236966-09	PB-841-09-SS01	SOIL	PHILADELPHIA, PA	07/12/22 12:10	07/12/22
L2236966-10	PB-841-10-SS01	SOIL	PHILADELPHIA, PA	07/12/22 12:30	07/12/22
L2236966-11	PB-841-11-SS01	SOIL	PHILADELPHIA, PA	07/12/22 13:30	07/12/22
L2236966-12	PB-841-12-SS01	SOIL	PHILADELPHIA, PA	07/12/22 13:40	07/12/22
L2236966-13	PB-841-13-SS01	SOIL	PHILADELPHIA, PA	07/12/22 13:55	07/12/22
L2236966-14	PB-841-14-SS01	SOIL	PHILADELPHIA, PA	07/12/22 14:30	07/12/22
L2236966-15	DUP-42	SOIL	PHILADELPHIA, PA	07/12/22 00:00	07/12/22
L2236966-16	FB-220712-3	WATER	PHILADELPHIA, PA	07/12/22 14:35	07/12/22
L2236966-17	TB-220712	WATER	PHILADELPHIA, PA	07/12/22 00:00	07/12/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236966
Project Number:	200.00135.006	**Report Date:**	07/19/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236966
Project Number:	200.00135.006	**Report Date:**	07/19/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

L2236966-17: Headspace was noted in the sample containers submitted for EDB & DBCP -Method 8011. The analysis was performed.

Microextractables

L2236966-17: Headspace was noted in the sample container utilized for analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Title: Technical Director/Representative Date: 07/19/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-01
Client ID: PB-841-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 09:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 18:39
Analyst: MKS
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0025	0.00026	1
Benzene	ND		mg/kg	0.00064	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00033	1
Toluene	ND		mg/kg	0.0013	0.00069	1
1,2-Dibromoethane	ND		mg/kg	0.00064	0.00037	1
Ethylbenzene	ND		mg/kg	0.0013	0.00018	1
p/m-Xylene	ND		mg/kg	0.0025	0.00071	1
o-Xylene	ND		mg/kg	0.0013	0.00037	1
Xylenes, Total	ND		mg/kg	0.0013	0.00037	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0025	0.00024	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0025	0.00042	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-02
Client ID: PB-841-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 09:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 16:48
Analyst: LAC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00060	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00065	1
1,2-Dibromoethane	ND		mg/kg	0.00060	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00067	1
o-Xylene	ND		mg/kg	0.0012	0.00035	1
Xylenes, Total	ND		mg/kg	0.0012	0.00035	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00040	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-03
Client ID: PB-841-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 17:15
Analyst: LAC
Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00031	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00060	1
o-Xylene	ND		mg/kg	0.0011	0.00031	1
Xylenes, Total	ND		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-04
Client ID: PB-841-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 17:42
Analyst: LAC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0016	0.00016	1
Benzene	ND		mg/kg	0.00039	0.00013	1
1,2-Dichloroethane	ND		mg/kg	0.00078	0.00020	1
Toluene	ND		mg/kg	0.00078	0.00042	1
1,2-Dibromoethane	ND		mg/kg	0.00039	0.00023	1
Ethylbenzene	ND		mg/kg	0.00078	0.00011	1
p/m-Xylene	ND		mg/kg	0.0016	0.00044	1
o-Xylene	ND		mg/kg	0.00078	0.00023	1
Xylenes, Total	ND		mg/kg	0.00078	0.00023	1
Isopropylbenzene	ND		mg/kg	0.00078	0.00008	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0016	0.00015	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0016	0.00026	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-05
Client ID: PB-841-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 18:09
Analyst: LAC
Percent Solids: 98%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00060	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00066	1
1,2-Dibromoethane	ND		mg/kg	0.00060	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00068	1
o-Xylene	ND		mg/kg	0.0012	0.00035	1
Xylenes, Total	ND		mg/kg	0.0012	0.00035	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00040	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	107		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-06
Client ID: PB-841-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 18:36
Analyst: LAC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00059	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00064	1
1,2-Dibromoethane	ND		mg/kg	0.00059	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00066	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-07
Client ID: PB-841-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 19:02
Analyst: LAC
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0035	0.00035	1
Benzene	ND		mg/kg	0.00087	0.00029	1
1,2-Dichloroethane	ND		mg/kg	0.0017	0.00045	1
Toluene	ND		mg/kg	0.0017	0.00095	1
1,2-Dibromoethane	ND		mg/kg	0.00087	0.00051	1
Ethylbenzene	ND		mg/kg	0.0017	0.00025	1
p/m-Xylene	ND		mg/kg	0.0035	0.00098	1
o-Xylene	ND		mg/kg	0.0017	0.00051	1
Xylenes, Total	ND		mg/kg	0.0017	0.00051	1
Isopropylbenzene	ND		mg/kg	0.0017	0.00019	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0035	0.00034	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0035	0.00058	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	85		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-08
Client ID: PB-841-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 19:28
Analyst: LAC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0026	0.00026	1
Benzene	ND		mg/kg	0.00065	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00033	1
Toluene	ND		mg/kg	0.0013	0.00071	1
1,2-Dibromoethane	ND		mg/kg	0.00065	0.00038	1
Ethylbenzene	ND		mg/kg	0.0013	0.00018	1
p/m-Xylene	ND		mg/kg	0.0026	0.00073	1
o-Xylene	ND		mg/kg	0.0013	0.00038	1
Xylenes, Total	ND		mg/kg	0.0013	0.00038	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0026	0.00025	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0026	0.00044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-09
Client ID: PB-841-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 12:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 19:54
Analyst: LAC
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0055	0.00055	1
Benzene	ND		mg/kg	0.0014	0.00045	1
1,2-Dichloroethane	ND		mg/kg	0.0027	0.00070	1
Toluene	ND		mg/kg	0.0027	0.0015	1
1,2-Dibromoethane	ND		mg/kg	0.0014	0.00080	1
Ethylbenzene	ND		mg/kg	0.0027	0.00039	1
p/m-Xylene	ND		mg/kg	0.0055	0.0015	1
o-Xylene	ND		mg/kg	0.0027	0.00080	1
Xylenes, Total	ND		mg/kg	0.0027	0.00080	1
Isopropylbenzene	ND		mg/kg	0.0027	0.00030	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0055	0.00053	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0055	0.00091	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-10
Client ID: PB-841-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 20:21
Analyst: LAC
Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00061	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00066	1
1,2-Dibromoethane	ND		mg/kg	0.00061	0.00036	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00068	1
o-Xylene	ND		mg/kg	0.0012	0.00035	1
Xylenes, Total	ND		mg/kg	0.0012	0.00035	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00024	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00041	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	85		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-11
Client ID: PB-841-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 13:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 20:47
Analyst: LAC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0028	0.00028	1
Benzene	ND		mg/kg	0.00069	0.00023	1
1,2-Dichloroethane	ND		mg/kg	0.0014	0.00035	1
Toluene	ND		mg/kg	0.0014	0.00075	1
1,2-Dibromoethane	ND		mg/kg	0.00069	0.00040	1
Ethylbenzene	ND		mg/kg	0.0014	0.00019	1
p/m-Xylene	ND		mg/kg	0.0028	0.00077	1
o-Xylene	ND		mg/kg	0.0014	0.00040	1
Xylenes, Total	ND		mg/kg	0.0014	0.00040	1
Isopropylbenzene	ND		mg/kg	0.0014	0.00015	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0028	0.00027	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0028	0.00046	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-12
Client ID: PB-841-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 13:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/17/22 21:41
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	0.00020	J	mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00092	0.00024	1
Toluene	ND		mg/kg	0.00092	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00092	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00052	1
o-Xylene	ND		mg/kg	0.00092	0.00027	1
Xylenes, Total	ND		mg/kg	0.00092	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00092	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-13
Client ID: PB-841-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 13:55
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/16/22 16:50
Analyst: NLK
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0035	0.00035	1
Benzene	ND		mg/kg	0.00086	0.00029	1
1,2-Dichloroethane	ND		mg/kg	0.0017	0.00044	1
Toluene	ND		mg/kg	0.0017	0.00094	1
1,2-Dibromoethane	ND		mg/kg	0.00086	0.00051	1
Ethylbenzene	ND		mg/kg	0.0017	0.00024	1
p/m-Xylene	ND		mg/kg	0.0035	0.00097	1
o-Xylene	ND		mg/kg	0.0017	0.00050	1
Xylenes, Total	ND		mg/kg	0.0017	0.00050	1
Isopropylbenzene	ND		mg/kg	0.0017	0.00019	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0035	0.00033	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0035	0.00058	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-14
Client ID: PB-841-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 14:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/16/22 17:10
Analyst: NLK
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00024	1
Benzene	0.00032	J	mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00063	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00065	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-15
Client ID: DUP-42
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/16/22 17:30
Analyst: NLK
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00059	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00064	1
1,2-Dibromoethane	ND		mg/kg	0.00059	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00066	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-16
Client ID: FB-220712-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 14:35
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 12:32
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/14/22 14:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-16
Client ID: FB-220712-3
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 14:35
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/15/22 10:53
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-17
Client ID: TB-220712
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 12:38
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/14/22 14:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-17
Client ID: TB-220712
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/15/22 11:16
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/15/22 10:38
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/14/22 14:02

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 16-17 Batch: WG1662837-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 11:31
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-11 Batch: WG1663911-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 09:14
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1664129-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/16/22 14:32
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 13-15 Batch: WG1664163-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 09:44
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 16-17 Batch: WG1664179-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/17/22 15:00
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 12 Batch: WG1664220-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	104		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 16-17 Batch: WG1662837-2								
1,2-Dibromoethane	102		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-11 Batch: WG1663911-3 WG1663911-4								
Methyl tert butyl ether	84		81		66-130	4		30
Benzene	84		79		70-130	6		30
1,2-Dichloroethane	84		81		70-130	4		30
Toluene	84		79		70-130	6		30
1,2-Dibromoethane	92		87		70-130	6		30
Ethylbenzene	84		79		70-130	6		30
p/m-Xylene	89		83		70-130	7		30
o-Xylene	87		83		70-130	5		30
Isopropylbenzene	82		78		70-130	5		30
1,3,5-Trimethylbenzene	82		79		70-130	4		30
1,2,4-Trimethylbenzene	81		78		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		99		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	83		83		70-130
Dibromofluoromethane	106		103		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236966
Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1664129-3 WG1664129-4								
Methyl tert butyl ether	115		114		66-130	1		30
Benzene	103		102		70-130	1		30
1,2-Dichloroethane	97		96		70-130	1		30
Toluene	103		102		70-130	1		30
1,2-Dibromoethane	104		104		70-130	0		30
Ethylbenzene	100		99		70-130	1		30
p/m-Xylene	100		99		70-130	1		30
o-Xylene	101		100		70-130	1		30
Isopropylbenzene	100		99		70-130	1		30
1,3,5-Trimethylbenzene	98		97		70-130	1		30
1,2,4-Trimethylbenzene	101		100		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	101		102		70-130
4-Bromofluorobenzene	106		106		70-130
Dibromofluoromethane	92		93		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 13-15 Batch: WG1664163-3 WG1664163-4								
Methyl tert butyl ether	91		88		66-130	3		30
Benzene	82		78		70-130	5		30
1,2-Dichloroethane	87		84		70-130	4		30
Toluene	75		72		70-130	4		30
1,2-Dibromoethane	85		82		70-130	4		30
Ethylbenzene	81		77		70-130	5		30
p/m-Xylene	82		78		70-130	5		30
o-Xylene	84		81		70-130	4		30
Isopropylbenzene	82		77		70-130	6		30
1,3,5-Trimethylbenzene	83		79		70-130	5		30
1,2,4-Trimethylbenzene	82		78		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		102		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	99		99		70-130
Dibromofluoromethane	101		101		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16-17 Batch: WG1664179-3 WG1664179-4								
Methyl tert butyl ether	94		96		63-130	2		20
Benzene	94		95		70-130	1		20
1,2-Dichloroethane	93		94		70-130	1		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
Isopropylbenzene	110		120		70-130	9		20
1,3,5-Trimethylbenzene	100		110		64-130	10		20
1,2,4-Trimethylbenzene	100		110		70-130	10		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		95		70-130
Toluene-d8	110		109		70-130
4-Bromofluorobenzene	121		123		70-130
Dibromofluoromethane	91		91		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 12 Batch: WG1664220-3 WG1664220-4								
Methyl tert butyl ether	89		89		66-130	0		30
Benzene	94		94		70-130	0		30
1,2-Dichloroethane	89		88		70-130	1		30
Toluene	94		96		70-130	2		30
1,2-Dibromoethane	94		98		70-130	4		30
Ethylbenzene	94		94		70-130	0		30
p/m-Xylene	98		99		70-130	1		30
o-Xylene	94		96		70-130	2		30
Isopropylbenzene	91		90		70-130	1		30
1,3,5-Trimethylbenzene	90		89		70-130	1		30
1,2,4-Trimethylbenzene	88		87		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		99		70-130
Toluene-d8	99		101		70-130
4-Bromofluorobenzene	83		82		70-130
Dibromofluoromethane	106		103		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-01
Client ID: PB-841-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 09:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 23:26
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	86		30-120
4-Terphenyl-d14	94		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-02
Client ID: PB-841-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 09:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 22:19
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	95		23-120
2-Fluorobiphenyl	91		30-120
4-Terphenyl-d14	101		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-03
Client ID: PB-841-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 22:41
Analyst: EK
Percent Solids: 97%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.020	1
Fluorene	ND		mg/kg	0.17	0.016	1
Phenanthrene	ND		mg/kg	0.10	0.020	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028	1
Benzo(a)pyrene	ND		mg/kg	0.13	0.041	1
Benzo(ghi)perylene	ND		mg/kg	0.13	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	97		23-120
2-Fluorobiphenyl	93		30-120
4-Terphenyl-d14	98		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-04
Client ID: PB-841-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 23:48
Analyst: EK
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	82		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-05
Client ID: PB-841-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 21:12
Analyst: EK
Percent Solids: 98%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.020	1
Fluorene	ND		mg/kg	0.17	0.016	1
Phenanthrene	ND		mg/kg	0.10	0.020	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.017	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028	1
Benzo(a)pyrene	ND		mg/kg	0.13	0.041	1
Benzo(ghi)perylene	ND		mg/kg	0.13	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	76		30-120
4-Terphenyl-d14	91		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-06
Client ID: PB-841-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 00:11
Analyst: EK
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-07
Client ID: PB-841-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 01:40
Analyst: EK
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.21	0.025	1
Fluorene	ND		mg/kg	0.21	0.020	1
Phenanthrene	0.032	J	mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	0.038	J	mg/kg	0.12	0.021	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.022	1
Benzo(b)fluoranthene	0.037	J	mg/kg	0.12	0.035	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	72		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-08
Client ID: PB-841-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 00:33
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	79		30-120
4-Terphenyl-d14	88		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-09
Client ID: PB-841-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 00:56
Analyst: EK
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	0.026	J	mg/kg	0.19	0.018	1
Phenanthrene	0.20		mg/kg	0.11	0.023	1
Anthracene	0.062	J	mg/kg	0.11	0.036	1
Pyrene	0.35		mg/kg	0.11	0.019	1
Benzo(a)anthracene	0.22		mg/kg	0.11	0.021	1
Chrysene	0.22		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.28		mg/kg	0.11	0.032	1
Benzo(a)pyrene	0.23		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	0.11	J	mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	70		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-10
Client ID: PB-841-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 21:34
Analyst: EK
Percent Solids: 97%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.016	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.041	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	89		30-120
4-Terphenyl-d14	89		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-11
Client ID: PB-841-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 13:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 23:04
Analyst: EK
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.021	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	85		30-120
4-Terphenyl-d14	88		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-12
Client ID: PB-841-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 13:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 01:18
Analyst: EK
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.022	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-13
Client ID: PB-841-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 13:55
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/19/22 15:24
Analyst: JG
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	0.036	J	mg/kg	0.18	0.017	1
Phenanthrene	0.39		mg/kg	0.11	0.022	1
Anthracene	0.088	J	mg/kg	0.11	0.034	1
Pyrene	0.41		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.24		mg/kg	0.11	0.020	1
Chrysene	0.21		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	0.26		mg/kg	0.11	0.030	1
Benzo(a)pyrene	0.22		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	0.14		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	60		30-120
4-Terphenyl-d14	64		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-14
Client ID: PB-841-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 14:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/19/22 15:48
Analyst: JG
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	0.032	J	mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	0.054	J	mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.035	J	mg/kg	0.11	0.020	1
Chrysene	0.044	J	mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.061	J	mg/kg	0.11	0.031	1
Benzo(a)pyrene	0.044	J	mg/kg	0.14	0.044	1
Benzo(ghi)perylene	0.039	J	mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	66		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-15
Client ID: DUP-42
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 21:56
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.020	1
Fluorene	ND		mg/kg	0.17	0.016	1
Phenanthrene	ND		mg/kg	0.10	0.020	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028	1
Benzo(a)pyrene	ND		mg/kg	0.13	0.041	1
Benzo(ghi)perylene	ND		mg/kg	0.13	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	87		30-120
4-Terphenyl-d14	98		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-16
Client ID: FB-220712-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 14:35
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/15/22 16:03
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/13/22 21:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	32		23-120
2-Fluorobiphenyl	33		15-120
4-Terphenyl-d14	**35**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/15/22 15:15
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/13/22 21:10

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 16 Batch: WG1662556-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	31		23-120
2-Fluorobiphenyl	32		15-120
4-Terphenyl-d14	**34**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/14/22 17:49
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-15 Batch: WG1662622-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.099	0.020
Anthracene	ND		mg/kg	0.099	0.032
Pyrene	ND		mg/kg	0.099	0.016
Benzo(a)anthracene	ND		mg/kg	0.099	0.018
Chrysene	ND		mg/kg	0.099	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.099	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	56		23-120
2-Fluorobiphenyl	56		30-120
4-Terphenyl-d14	69		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 16 Batch: WG1662556-2 WG1662556-3								
Naphthalene	57		57		40-140	0		40
Fluorene	58		62		40-140	7		40
Phenanthrene	57		61		40-140	7		40
Anthracene	57		61		40-140	7		40
Pyrene	61		64		26-127	5		40
Benzo(a)anthracene	59		62		40-140	5		40
Chrysene	57		63		40-140	10		40
Benzo(b)fluoranthene	60		70		40-140	15		40
Benzo(a)pyrene	61		65		40-140	6		40
Benzo(ghi)perylene	58		61		40-140	5		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	27		29		23-120
2-Fluorobiphenyl	29		30		15-120
4-Terphenyl-d14	**30**	Q	**33**	Q	41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-15 Batch: WG1662622-2 WG1662622-3								
Naphthalene	78		87		40-140	11		50
Fluorene	81		90		40-140	11		50
Phenanthrene	77		87		40-140	12		50
Anthracene	80		91		40-140	13		50
Pyrene	74		83		35-142	11		50
Benzo(a)anthracene	80		87		40-140	8		50
Chrysene	81		91		40-140	12		50
Benzo(b)fluoranthene	76		84		40-140	10		50
Benzo(a)pyrene	86		94		40-140	9		50
Benzo(ghi)perylene	71		78		40-140	9		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	88		98		23-120
2-Fluorobiphenyl	81		85		30-120
4-Terphenyl-d14	80		88		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-01
Client ID: PB-841-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 09:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.27		mg/kg	2.07	0.111	1	07/13/22 21:00	07/18/22 14:51	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-02
Client ID: PB-841-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 09:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.32		mg/kg	1.98	0.106	1	07/14/22 09:10	07/18/22 10:11	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-03
Client ID: PB-841-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 10:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.07		mg/kg	2.01	0.108	1	07/14/22 09:10	07/18/22 10:15	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-04
Client ID: PB-841-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 10:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.88		mg/kg	2.00	0.107	1	07/14/22 09:10	07/18/22 10:58	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-05
Client ID: PB-841-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 10:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 98%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.54		mg/kg	2.00	0.107	1	07/14/22 09:10	07/18/22 11:03	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-06
Client ID: PB-841-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.07		mg/kg	2.21	0.118	1	07/14/22 09:10	07/18/22 11:07	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-07
Client ID: PB-841-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	8.11		mg/kg	2.48	0.133	1	07/14/22 09:10	07/18/22 11:12	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-08
Client ID: PB-841-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.00		mg/kg	2.04	0.109	1	07/14/22 09:10	07/18/22 11:16	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-09
Client ID: PB-841-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 12:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.00		mg/kg	2.17	0.116	1	07/14/22 09:10	07/18/22 11:21	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-10
Client ID: PB-841-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 12:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.76		mg/kg	2.02	0.108	1	07/14/22 09:10	07/18/22 11:25	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-11
Client ID: PB-841-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 13:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.51		mg/kg	2.06	0.110	1	07/14/22 09:10	07/18/22 11:30	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-12
Client ID: PB-841-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 13:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.72		mg/kg	2.24	0.120	1	07/14/22 09:10	07/18/22 11:34	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-13
Client ID: PB-841-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 13:55
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	93.9		mg/kg	2.10	0.113	1	07/14/22 09:10	07/18/22 12:02	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-14
Client ID: PB-841-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 14:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	38.9		mg/kg	2.08	0.111	1	07/14/22 09:10	07/18/22 12:07	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-15
Client ID: DUP-42
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.60		mg/kg	2.00	0.107	1	07/14/22 09:10	07/18/22 12:11	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-16
Client ID: FB-220712-3
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Water

Date Collected: 07/12/22 14:35
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/13/22 17:44	07/17/22 16:58	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 16 Batch: WG1662468-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/13/22 17:44	07/17/22 14:50	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1662480-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/13/22 21:00	07/18/22 11:53	1,6010D	NB

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 02-15 Batch: WG1662657-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/14/22 09:10	07/18/22 09:57	1,6010D	NB

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 16 Batch: WG1662468-2								
Lead, Total	103		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1662480-2 SRM Lot Number: D113-540								
Lead, Total	76		-		72-128	-		
Total Metals - Mansfield Lab Associated sample(s): 02-15 Batch: WG1662657-2 SRM Lot Number: D113-540								
Lead, Total	90		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236966
Report Date: 07/19/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 16 QC Batch ID: WG1662468-3 QC Sample: L2236962-19 Client ID: MS Sample												
Lead, Total	ND	530	530.0	100		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1662480-3 QC Sample: L2236962-01 Client ID: MS Sample												
Lead, Total	1.62J	43.9	22.6	**51**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 02-15 QC Batch ID: WG1662657-3 QC Sample: L2235484-01 Client ID: MS Sample												
Lead, Total	9.34	54.7	43.2	**62**	Q	-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 16 QC Batch ID: WG1662468-4 QC Sample: L2236962-19 Client ID: DUP Sample						
Lead, Total	ND	ND	ug/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1662480-4 QC Sample: L2236962-01 Client ID: DUP Sample						
Lead, Total	1.62J	1.66J	mg/kg	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-01
Client ID: PB-841-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 09:30
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.7		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-02
Client ID: PB-841-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 09:50
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.9		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-03
Client ID: PB-841-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 10:10
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.6		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-04
Client ID: PB-841-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 10:30
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.2		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-05
Client ID: PB-841-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 10:50
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	98.0		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-06
Client ID: PB-841-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 11:10
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.3		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-07
Client ID: PB-841-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 11:30
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.9		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-08
Client ID: PB-841-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 11:50
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.2		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-09
Client ID: PB-841-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 12:10
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.8		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-10
Client ID: PB-841-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 12:30
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.7		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-11
Client ID: PB-841-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 13:30
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.2		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-12
Client ID: PB-841-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 13:40
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.2		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-13
Client ID: PB-841-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 13:55
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.4		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-14
Client ID: PB-841-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 14:30
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.4		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-15
Client ID: DUP-42
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.4		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-15 QC Batch ID: WG1662270-1 QC Sample: L2236966-01 Client ID: PB-841-01-SS01						
Solids, Total	95.7	95.9	%	0		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236966
Report Date: 07/19/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236966-01A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2236966-01B	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-01C	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-01D	Plastic 2oz unpreserved for TS	A	NA		5.4	Y	Absent		TS(7)
L2236966-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		PB-TI(180)
L2236966-01F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-PAH(14)
L2236966-02A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2236966-02B	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-02C	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-02D	Plastic 2oz unpreserved for TS	A	NA		5.4	Y	Absent		TS(7)
L2236966-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		PB-TI(180)
L2236966-02F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-PAH(14)
L2236966-03A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2236966-03B	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-03C	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-03D	Plastic 2oz unpreserved for TS	A	NA		5.4	Y	Absent		TS(7)
L2236966-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		PB-TI(180)
L2236966-03F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-PAH(14)
L2236966-04A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2236966-04B	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-04C	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-04D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236966-04E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)
L2236966-04F	Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2236966-04G	Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2236966-05A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2236966-05B	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-05C	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-05D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)
L2236966-05E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)
L2236966-05F	Glass 120ml/4oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2236966-06A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2236966-06B	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-06C	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-06D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)
L2236966-06E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)
L2236966-06F	Glass 120ml/4oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2236966-07A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2236966-07B	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-07C	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-07D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)
L2236966-07E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)
L2236966-07F	Glass 120ml/4oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2236966-08A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2236966-08B	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-08C	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-08D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)
L2236966-08E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)
L2236966-08F	Glass 120ml/4oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2236966-09A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236966-09B	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-09C	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-09D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)
L2236966-09E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)
L2236966-09F	Glass 120ml/4oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2236966-10A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2236966-10B	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-10C	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-10D	Plastic 2oz unpreserved for TS	A	NA		5.4	Y	Absent		TS(7)
L2236966-10E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		PB-TI(180)
L2236966-10F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-PAH(14)
L2236966-11A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2236966-11B	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-11C	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-11D	Plastic 2oz unpreserved for TS	A	NA		5.4	Y	Absent		TS(7)
L2236966-11E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		PB-TI(180)
L2236966-11F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-PAH(14)
L2236966-12A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2236966-12B	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-12C	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-12D	Plastic 2oz unpreserved for TS	A	NA		5.4	Y	Absent		TS(7)
L2236966-12E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		PB-TI(180)
L2236966-12F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-PAH(14)
L2236966-13A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2236966-13B	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-13C	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-13D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)
L2236966-13E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236966
Report Date: 07/19/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236966-13F	Glass 120ml/4oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2236966-14A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2236966-14B	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-14C	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-14D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)
L2236966-14E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)
L2236966-14F	Glass 120ml/4oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2236966-15A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2236966-15B	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-15C	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-15D	Metals Only-Glass 60mL/2oz unpreserved	B	N/A	N/A	4.3	Y	Absent		PB-TI(180)
L2236966-15E	Glass 120ml/4oz unpreserved	B	NA		4.3	Y	Absent		TS(7),PA-PAH(14)
L2236966-16A	Vial HCl preserved	B	NA		4.3	Y	Absent		PA-8260(14)
L2236966-16B	Vial HCl preserved	B	NA		4.3	Y	Absent		PA-8260(14)
L2236966-16C	Vial HCl preserved	B	NA		4.3	Y	Absent		8011(14)
L2236966-16D	Plastic 250ml HNO3 preserved	B	<2	<2	4.3	Y	Absent		PB-6020T-PPB(180)
L2236966-16E	Amber 250ml unpreserved	B	7	7	4.3	Y	Absent		PA-PAHSIM-LVI(7)
L2236966-16F	Amber 250ml unpreserved	B	7	7	4.3	Y	Absent		PA-PAHSIM-LVI(7)
L2236966-17A	Vial HCl preserved	B	NA		4.3	Y	Absent		PA-8260(14)
L2236966-17B	Vial HCl preserved	B	NA		4.3	N	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236966
Project Number:	200.00135.006	**Report Date:**	07/19/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236966
Project Number:	200.00135.006	**Report Date:**	07/19/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236966
Project Number:	200.00135.006	**Report Date:**	07/19/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236966
Project Number:	200.00135.006	**Report Date:**	07/19/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

2

CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 7/13/22

ALPHA Job #: L2236616

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193

Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SHORTLIST 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36966 -01	PB-841-01-5501	7/12	930	S	TS	
-02	PB-841-02-5501		950			
-03	PB-841-03-5501		1010			
-04	PB-841-04-5501		1030			
-05	PB-841-05-5501		1050			
-06	PB-841-06-5501		1110			
-07	PB-841-07-5501		1130			
-08	PB-841-08-5501		1150			
-09	PB-841-09-5501		1210			
-10	PB-841-10-5501		1230			

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/12 1455		7/12 1455
	7/12/22 1800		7-12 1800
	7-12 2100		7/12/22 2100
	7/12/22		7/13/22 0005

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(LALR) (rev. 3-JAN-12)

2

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 7/13/22

ALPHA Job #: L2236966

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193

Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client Info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SHORTLIST 1-5

VOC PORTION OF 52

SAMPLE HANDLING

Filtration

☐ Done ☒ Not Needed ☐ Lab to do

Preservation

☐ Lab to do

(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
-11	PB-841-11-5501	7/12	1330	S	JS	
-12	PB-841-12-5501		1310	S		
-13	PB-841-13-5501		1355	S		
-14	PB-841-14-5501		1430	S		
-15	DUP-42		-	S		
-16	FB-220712-3		1435	W		
-17	TB-220712					

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/12/1455		7/12/22 1455
AA	7/12/22 1800		7/12 1800
AMP	7/13/22 2100		7/12/22 2100
	7/15/22 0730		7/13/22 0800

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(MA) (rev. 3-JAN-12)

PADEP Short List Analytical Suites per Table III-5:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

ANALYTICAL REPORT

Lab Number:	L2237250
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/20/22

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237250
Report Date: 07/20/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2237250-01	PB-882-03-SS01	SOIL	PHILADELPHIA, PA	07/13/22 11:30	07/13/22
L2237250-02	PB-882-04-SS01	SOIL	PHILADELPHIA, PA	07/13/22 11:40	07/13/22
L2237250-03	PB-882-05-SS01	SOIL	PHILADELPHIA, PA	07/13/22 11:50	07/13/22
L2237250-04	PB-882-06-SS01	SOIL	PHILADELPHIA, PA	07/13/22 12:00	07/13/22
L2237250-05	PB-882-07-SS01	SOIL	PHILADELPHIA, PA	07/13/22 12:10	07/13/22
L2237250-06	PB-882-08-SS01	SOIL	PHILADELPHIA, PA	07/13/22 12:20	07/13/22
L2237250-07	PB-882-09-SS01	SOIL	PHILADELPHIA, PA	07/13/22 12:30	07/13/22
L2237250-08	PB-882-11-SS01	SOIL	PHILADELPHIA, PA	07/13/22 12:40	07/13/22
L2237250-09	PB-882-12-SS01	SOIL	PHILADELPHIA, PA	07/13/22 12:50	07/13/22
L2237250-10	PB-882-13-SS01	SOIL	PHILADELPHIA, PA	07/13/22 13:00	07/13/22
L2237250-11	FB-071322-1	WATER	PHILADELPHIA, PA	07/13/22 14:00	07/13/22
L2237250-12	DUP-43	SOIL	PHILADELPHIA, PA	07/13/22 00:00	07/13/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237250
Project Number:	200.00135.006	**Report Date:**	07/20/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237250
Project Number:	200.00135.006	**Report Date:**	07/20/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2237250-06: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (191%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2237250-07: The surrogate recoveries are outside the acceptance criteria for toluene-d8 (167%) and 4-bromofluorobenzene (422%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Total Metals

L2237250-01 through -10: The sample has an elevated detection limit for lead, due to the dilution required by matrix interferences encountered during analysis.

L2237250-12: The sample has an elevated detection limit for lead due to the dilution required by matrix interferences encountered during analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 07/20/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-01
Client ID: PB-882-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 11:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 10:01
Analyst: NLK
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	ND		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00090	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00090	0.00026	1
Xylenes, Total	ND		mg/kg	0.00090	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-02
Client ID: PB-882-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 11:40
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 10:28
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	0.00058		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00095	0.00024	1
Toluene	ND		mg/kg	0.00095	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	0.00014	J	mg/kg	0.00095	0.00013	1
p/m-Xylene	0.00060	J	mg/kg	0.0019	0.00053	1
o-Xylene	ND		mg/kg	0.00095	0.00028	1
Xylenes, Total	0.00060	J	mg/kg	0.00095	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00095	0.00010	1
1,3,5-Trimethylbenzene	0.00038	J	mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	0.00096	J	mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-03
Client ID: PB-882-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 11:50
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 10:55
Analyst: NLK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	107		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-04
Client ID: PB-882-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 11:22
Analyst: NLK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00091	0.00023	1
Toluene	ND		mg/kg	0.00091	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00091	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00091	0.00026	1
Xylenes, Total	ND		mg/kg	0.00091	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00091	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-05
Client ID: PB-882-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:10
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 11:49
Analyst: NLK
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00091	0.00023	1
Toluene	ND		mg/kg	0.00091	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00091	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00091	0.00026	1
Xylenes, Total	ND		mg/kg	0.00091	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00091	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-06
Client ID: PB-882-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:20
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/20/22 09:17
Analyst: NLK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00089	0.00023	1
Toluene	ND		mg/kg	0.00089	0.00048	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	0.017		mg/kg	0.00089	0.00012	1
p/m-Xylene	0.0045		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00089	0.00026	1
Xylenes, Total	0.0045		mg/kg	0.00089	0.00026	1
Isopropylbenzene	0.039		mg/kg	0.00089	0.00009	1
1,3,5-Trimethylbenzene	0.016		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	0.041		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	74		70-130
Toluene-d8	127		70-130
4-Bromofluorobenzene	**191**	Q	70-130
Dibromofluoromethane	76		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-07
Client ID: PB-882-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/20/22 10:09
Analyst: NLK
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	0.00079	J	mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00061	1
o-Xylene	0.0014		mg/kg	0.0011	0.00032	1
Xylenes, Total	0.0014		mg/kg	0.0011	0.00032	1
Isopropylbenzene	0.042		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	75		70-130
Toluene-d8	**167**	Q	70-130
4-Bromofluorobenzene	**422**	Q	70-130
Dibromofluoromethane	73		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-08
Client ID: PB-882-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:40
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 12:16
Analyst: NLK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0016	J	mg/kg	0.0017	0.00017	1
Benzene	0.00032	J	mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00087	0.00022	1
Toluene	ND		mg/kg	0.00087	0.00047	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	ND		mg/kg	0.00087	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00049	1
o-Xylene	ND		mg/kg	0.00087	0.00025	1
Xylenes, Total	ND		mg/kg	0.00087	0.00025	1
Isopropylbenzene	0.00010	J	mg/kg	0.00087	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-09
Client ID: PB-882-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:50
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 12:42
Analyst: NLK
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	0.00037	J	mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00085	0.00022	1
Toluene	ND		mg/kg	0.00085	0.00046	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	ND		mg/kg	0.00085	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00048	1
o-Xylene	ND		mg/kg	0.00085	0.00025	1
Xylenes, Total	ND		mg/kg	0.00085	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00085	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-10
Client ID: PB-882-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 13:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 13:09
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00092	0.00024	1
Toluene	ND		mg/kg	0.00092	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00092	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00052	1
o-Xylene	ND		mg/kg	0.00092	0.00027	1
Xylenes, Total	ND		mg/kg	0.00092	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00092	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-11
Client ID: FB-071322-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 14:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 16:49
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-11
Client ID: FB-071322-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 14:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/16/22 10:01
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-12
Client ID: DUP-43
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 00:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 13:35
Analyst: NLK
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00020	1
Benzene	0.00021	J	mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00097	0.00025	1
Toluene	ND		mg/kg	0.00097	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00028	1
Ethylbenzene	ND		mg/kg	0.00097	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00097	0.00028	1
Xylenes, Total	ND		mg/kg	0.00097	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00097	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	109		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/15/22 16:10
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 11 Batch: WG1663450-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/16/22 08:52
Analyst: TMS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 11 Batch: WG1663980-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/18/22 09:34
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-05,08-10,12 Batch: WG1664674-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/20/22 08:50
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 06-07 Batch: WG1665306-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	90		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237250

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 11		Batch: WG1663450-2						
1,2-Dibromoethane	97		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237250

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 11 Batch: WG1663980-3 WG1663980-4								
Methyl tert butyl ether	97		96		63-130	1		20
Benzene	94		93		70-130	1		20
1,2-Dichloroethane	97		95		70-130	2		20
Toluene	96		97		70-130	1		20
Ethylbenzene	97		98		70-130	1		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	95		95		70-130	0		20
Isopropylbenzene	110		110		70-130	0		20
1,3,5-Trimethylbenzene	100		100		64-130	0		20
1,2,4-Trimethylbenzene	100		100		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		95		70-130
Toluene-d8	106		107		70-130
4-Bromofluorobenzene	115		115		70-130
Dibromofluoromethane	93		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237250
Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-05,08-10,12 Batch: WG1664674-3 WG1664674-4								
Methyl tert butyl ether	87		86		66-130	1		30
Benzene	87		87		70-130	0		30
1,2-Dichloroethane	85		86		70-130	1		30
Toluene	88		89		70-130	1		30
1,2-Dibromoethane	93		93		70-130	0		30
Ethylbenzene	87		87		70-130	0		30
p/m-Xylene	91		92		70-130	1		30
o-Xylene	89		90		70-130	1		30
Isopropylbenzene	85		85		70-130	0		30
1,3,5-Trimethylbenzene	85		85		70-130	0		30
1,2,4-Trimethylbenzene	84		83		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		96		70-130
Toluene-d8	99		101		70-130
4-Bromofluorobenzene	84		84		70-130
Dibromofluoromethane	106		105		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237250

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 06-07 Batch: WG1665306-3 WG1665306-4								
Methyl tert butyl ether	100		98		66-130	2		30
Benzene	88		84		70-130	5		30
1,2-Dichloroethane	**69**	Q	**66**	Q	70-130	4		30
Toluene	88		85		70-130	3		30
1,2-Dibromoethane	85		83		70-130	2		30
Ethylbenzene	85		82		70-130	4		30
p/m-Xylene	88		86		70-130	2		30
o-Xylene	87		84		70-130	4		30
Isopropylbenzene	92		89		70-130	3		30
1,3,5-Trimethylbenzene	88		86		70-130	2		30
1,2,4-Trimethylbenzene	87		85		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	76		75		70-130
Toluene-d8	102		101		70-130
4-Bromofluorobenzene	104		103		70-130
Dibromofluoromethane	78		77		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-01
Client ID: PB-882-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 11:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 15:47
Analyst: EK
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	112		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	85		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-02
Client ID: PB-882-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 11:40
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 16:11
Analyst: EK
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	106		23-120
2-Fluorobiphenyl	76		30-120
4-Terphenyl-d14	97		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-03
Client ID: PB-882-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 11:50
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 16:34
Analyst: EK
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	104		23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	79		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-04
Client ID: PB-882-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 16:57
Analyst: EK
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	115		23-120
2-Fluorobiphenyl	79		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-05
Client ID: PB-882-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:10
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 17:21
Analyst: EK
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**133**	Q	23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	101		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-06
Client ID: PB-882-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:20
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 17:44
Analyst: EK
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	1.6		mg/kg	0.19	0.024	1
Fluorene	0.40		mg/kg	0.19	0.019	1
Phenanthrene	0.78		mg/kg	0.12	0.024	1
Anthracene	0.041	J	mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**139**	Q	23-120
2-Fluorobiphenyl	81		30-120
4-Terphenyl-d14	91		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-07
Client ID: PB-882-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 16:57
Analyst: SLR
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.060	J	mg/kg	0.20	0.025	1
Fluorene	0.99		mg/kg	0.20	0.020	1
Phenanthrene	1.7		mg/kg	0.12	0.025	1
Anthracene	0.076	J	mg/kg	0.12	0.040	1
Pyrene	0.062	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.024	J	mg/kg	0.12	0.023	1
Chrysene	0.094	J	mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.035	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	93		23-120
2-Fluorobiphenyl	91		30-120
4-Terphenyl-d14	98		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-08
Client ID: PB-882-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:40
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 18:07
Analyst: EK
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**142**	Q	23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	103		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-09
Client ID: PB-882-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:50
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 18:30
Analyst: EK
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**139**	Q	23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	89		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-10
Client ID: PB-882-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 13:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 18:54
Analyst: EK
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**125**	Q	23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	78		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-11
Client ID: FB-071322-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 14:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/15/22 19:51
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/15/22 01:47

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.05	J	ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	37		23-120
2-Fluorobiphenyl	42		15-120
4-Terphenyl-d14	52		41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-12
Client ID: DUP-43
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 00:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 16:33
Analyst: SLR
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	57		23-120
2-Fluorobiphenyl	68		30-120
4-Terphenyl-d14	69		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/14/22 17:49
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 12 Batch: WG1662622-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.099	0.020
Anthracene	ND		mg/kg	0.099	0.032
Pyrene	ND		mg/kg	0.099	0.016
Benzo(a)anthracene	ND		mg/kg	0.099	0.018
Chrysene	ND		mg/kg	0.099	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.099	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	56		23-120
2-Fluorobiphenyl	56		30-120
4-Terphenyl-d14	69		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/15/22 08:47
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:25

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-10 Batch: WG1663095-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.099	0.020
Anthracene	ND		mg/kg	0.099	0.032
Pyrene	ND		mg/kg	0.099	0.016
Benzo(a)anthracene	ND		mg/kg	0.099	0.019
Chrysene	ND		mg/kg	0.099	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.099	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	107		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	101		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/15/22 18:13
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/15/22 01:47

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 11 Batch: WG1663135-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	0.03	J	ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	39		23-120
2-Fluorobiphenyl	43		15-120
4-Terphenyl-d14	43		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237250

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 12 Batch: WG1662622-2 WG1662622-3								
Naphthalene	78		87		40-140	11		50
Fluorene	81		90		40-140	11		50
Phenanthrene	77		87		40-140	12		50
Anthracene	80		91		40-140	13		50
Pyrene	74		83		35-142	11		50
Benzo(a)anthracene	80		87		40-140	8		50
Chrysene	81		91		40-140	12		50
Benzo(b)fluoranthene	76		84		40-140	10		50
Benzo(a)pyrene	86		94		40-140	9		50
Benzo(ghi)perylene	71		78		40-140	9		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	88		98		23-120
2-Fluorobiphenyl	81		85		30-120
4-Terphenyl-d14	80		88		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237250

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 Batch: WG1663095-2 WG1663095-3								
Naphthalene	76		78		40-140	3		50
Fluorene	84		83		40-140	1		50
Phenanthrene	78		77		40-140	1		50
Anthracene	81		79		40-140	3		50
Pyrene	82		80		35-142	2		50
Benzo(a)anthracene	85		84		40-140	1		50
Chrysene	86		84		40-140	2		50
Benzo(b)fluoranthene	87		91		40-140	4		50
Benzo(a)pyrene	90		95		40-140	5		50
Benzo(ghi)perylene	85		78		40-140	9		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	113		116		23-120
2-Fluorobiphenyl	78		78		30-120
4-Terphenyl-d14	91		89		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237250
Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 11 Batch: WG1663135-2 WG1663135-3								
Naphthalene	90		84		40-140	7		40
Fluorene	90		88		40-140	2		40
Phenanthrene	91		85		40-140	7		40
Anthracene	90		86		40-140	5		40
Pyrene	96		91		26-127	5		40
Benzo(a)anthracene	94		90		40-140	4		40
Chrysene	90		86		40-140	5		40
Benzo(b)fluoranthene	97		90		40-140	7		40
Benzo(a)pyrene	95		88		40-140	8		40
Benzo(ghi)perylene	94		90		40-140	4		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	43		39		23-120
2-Fluorobiphenyl	43		42		15-120
4-Terphenyl-d14	48		45		41-149

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-01
Client ID: PB-882-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 11:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	9.65		mg/kg	4.74	0.254	2	07/14/22 20:35	07/19/22 09:45	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-02
Client ID: PB-882-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 11:40
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.10		mg/kg	4.59	0.246	2	07/14/22 20:35	07/19/22 09:49	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-03
Client ID: PB-882-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 11:50
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.09		mg/kg	4.50	0.241	2	07/14/22 20:35	07/19/22 10:12	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-04
Client ID: PB-882-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 12:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.96		mg/kg	4.56	0.244	2	07/14/22 20:35	07/19/22 10:17	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-05
Client ID: PB-882-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 12:10
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.62		mg/kg	4.66	0.250	2	07/14/22 20:35	07/19/22 10:22	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-06
Client ID: PB-882-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 12:20
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.78	J	mg/kg	4.65	0.249	2	07/14/22 20:35	07/19/22 10:26	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-07
Client ID: PB-882-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 12:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.45	J	mg/kg	4.80	0.257	2	07/14/22 20:35	07/19/22 10:31	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-08
Client ID: PB-882-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 12:40
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.69		mg/kg	4.61	0.247	2	07/14/22 20:35	07/19/22 10:35	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-09
Client ID: PB-882-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 12:50
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.37		mg/kg	4.65	0.249	2	07/14/22 20:35	07/19/22 10:40	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-10
Client ID: PB-882-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 13:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.83		mg/kg	4.54	0.243	2	07/14/22 20:35	07/19/22 10:44	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-11
Client ID: FB-071322-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 14:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/15/22 14:25	07/18/22 20:08	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-12
Client ID: DUP-43
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 00:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	11.8		mg/kg	4.44	0.238	2	07/14/22 21:44	07/19/22 20:35	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 12 Batch: WG1663051-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/14/22 21:44	07/19/22 00:37	1,6010D	BV

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-10 Batch: WG1663069-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/14/22 20:35	07/19/22 07:16	1,6010D	EW

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 11 Batch: WG1663390-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/15/22 14:25	07/18/22 18:50	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237250

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 12 Batch: WG1663051-2 SRM Lot Number: D113-540								
Lead, Total	86		-		72-128	-		
Total Metals - Mansfield Lab Associated sample(s): 01-10 Batch: WG1663069-2 SRM Lot Number: D113-540								
Lead, Total	82		-		72-128	-		
Total Metals - Mansfield Lab Associated sample(s): 11 Batch: WG1663390-2								
Lead, Total	102		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237250
Report Date: 07/20/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 12 QC Batch ID: WG1663051-3 QC Sample: L2237250-12 Client ID: DUP-43												
Lead, Total	11.8	49.3	50.6	79		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG1663069-3 QC Sample: L2237246-02 Client ID: MS Sample												
Lead, Total	3.36J	43.7	28.9	**66**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 11 QC Batch ID: WG1663390-3 WG1663390-4 QC Sample: L2237672-03 Client ID: MS Sample												
Lead, Total	0.9553J	530	569.8	108		561.0	106		75-125	2		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237250

Report Date: 07/20/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 12 QC Batch ID: WG1663051-4 QC Sample: L2237250-12 Client ID: DUP-43						
Lead, Total	11.8	11.4	mg/kg	3		20
Total Metals - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG1663069-4 QC Sample: L2237246-02 Client ID: DUP Sample						
Lead, Total	3.36J	2.92J	mg/kg	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-01
Client ID: PB-882-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 11:30
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.2		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-02
Client ID: PB-882-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 11:40
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.8		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-03
Client ID: PB-882-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/13/22 11:50
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.4		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-04
Client ID: PB-882-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 12:00
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.4		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-05
Client ID: PB-882-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/13/22 12:10
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.1		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-06
Client ID: PB-882-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 12:20
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-07
Client ID: PB-882-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 12:30
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.0		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-08
Client ID: PB-882-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/13/22 12:40
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.1		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-09
Client ID: PB-882-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 12:50
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.0		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-10
Client ID: PB-882-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 13:00
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.2		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-12
Client ID: DUP-43
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 00:00
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.4		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237250

Report Date: 07/20/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-10,12 QC Batch ID: WG1663380-1 QC Sample: L2237250-01 Client ID: PB-882-03-SS01						
Solids, Total	82.2	81.8	%	0		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237250
Report Date: 07/20/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237250-01A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-01B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-01C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-01D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-01F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-02A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-02B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-02C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-02D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-02F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-03A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-03B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-03C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-03D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-03F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-04A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-04B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-04C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-04D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237250
Report Date: 07/20/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237250-04F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-05A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-05B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-05C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-05D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-05F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-06A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-06B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-06C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-06D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-06F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-07A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-07B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-07C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-07D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-07E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-07F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-08A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-08B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-08C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-08D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-08E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-08F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-09A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-09B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-09C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237250
Report Date: 07/20/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237250-09D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-09E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-09F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-10A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-10B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-10C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-10D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-10E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-10F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-11A	Vial HCl preserved	A	NA		4.6	Y	Absent		PA-8260(14)
L2237250-11B	Vial HCl preserved	A	NA		4.6	Y	Absent		PA-8260(14)
L2237250-11C	Vial HCl preserved	A	NA		4.6	Y	Absent		PA-8260(14)
L2237250-11D	Vial HCl preserved	A	NA		4.6	Y	Absent		8011(14)
L2237250-11E	Vial HCl preserved	A	NA		4.6	Y	Absent		8011(14)
L2237250-11F	Amber 250ml unpreserved	A	7	7	4.6	Y	Absent		PA-PAHSIM-LVI(7)
L2237250-11G	Amber 250ml unpreserved	A	7	7	4.6	Y	Absent		PA-PAHSIM-LVI(7)
L2237250-11H	Plastic 250ml HNO3 preserved	A	<2	<2	4.6	Y	Absent		PB-6020T-PPB(180)
L2237250-12A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-12B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-12C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-12D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-12E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-12F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237250
Project Number:	200.00135.006	**Report Date:**	07/20/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237250
Project Number:	200.00135.006	**Report Date:**	07/20/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237250
Project Number:	200.00135.006	**Report Date:**	07/20/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237250
Project Number:	200.00135.006	**Report Date:**	07/20/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/14/22

ALPHA Job #: L2237250

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
37250 1	PB-SB2-03-5501	7/13/22	1130	S	AV	
2	PB-SB2-04-5501		1140			
3	PB-SB2-05-5501		1150			
4	PB-SB2-06-5501		1200			
5	PB-SB2-07-5501		1210			
6	PB-SB2-08-5501		1220			
7	PB-SB2-09-5501		1230			
8	PB-SB2-11-5501		1240			
9	PB-SB2-12-5501		1250			
10	PB-SB2-13-5501		1300			

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/13/22	SJ for AAL	7/14/22 1535
	7/13/22 1500		7-13-1601
	7-13-2105		7/13/22 2100
	7/13/22		7/15/22 2350

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(HEL) (rev. 9-JAN-12)

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 7/14/22

ALPHA Job #: L2237250

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information

☐ FAX ☒ ADEx

Data Deliverables

☒ EMAIL ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program: Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

5-1 TSI + Naphs

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
37250-11	~~FB~~ FB-071322-1	7/13/22	1400	W	CW	
12	DUP-43	↓	—	S	↓	

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/13/22	STL AAL	7/13/22 14:35
	7/13/22 1800		7-13 1900
	7-13 2100		7/13/22 2100
	7/13/22		
7/14/22 0205		7/14/22	2215

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

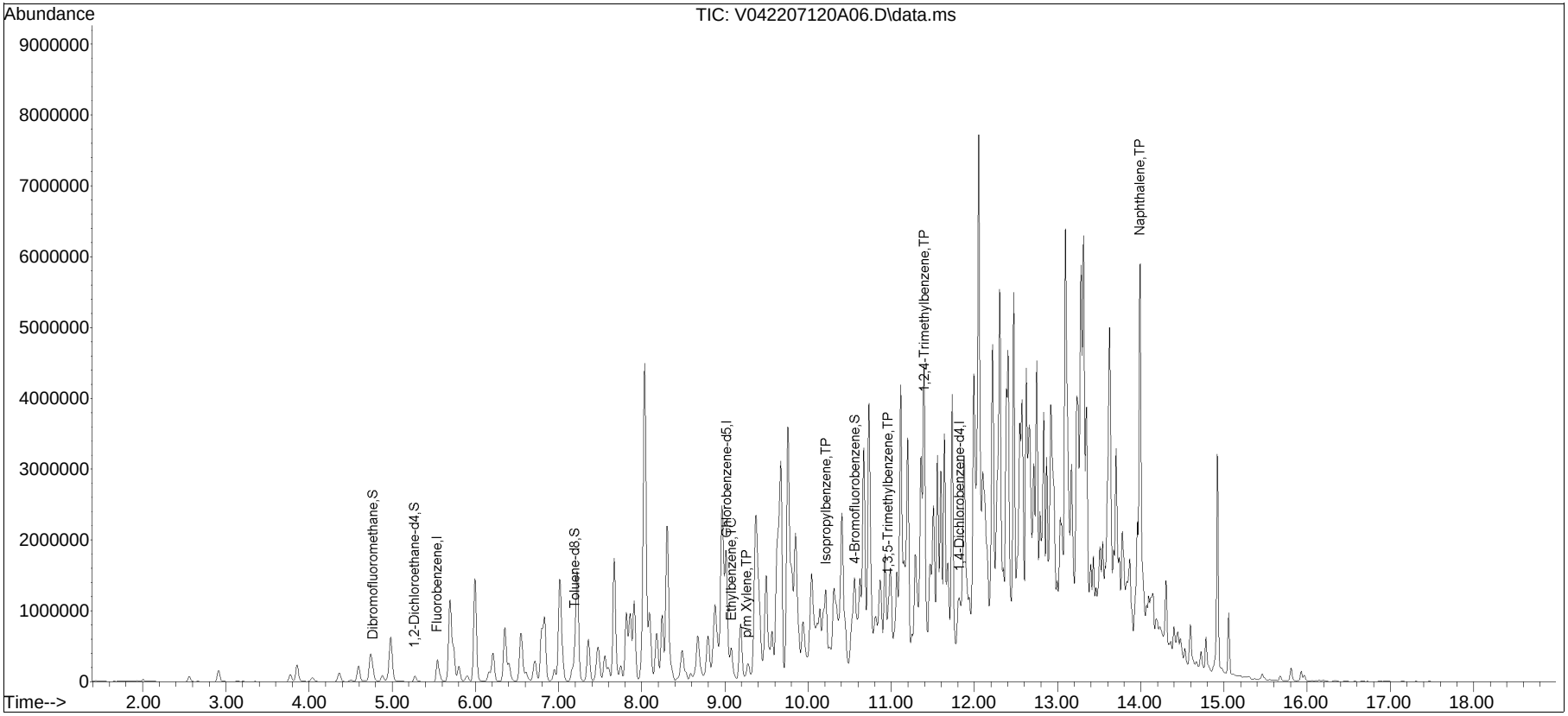
FORM NO: 01-01(M) (rev. 5-JAN-12)

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA104\2022\2207120A\
Data File : V042207120A06.D
Acq On : 20 Jul 2022 9:17 am
Operator : VOA104:NLK
Sample : L2237250-06,31,6.67,5,,B,R2F
Misc : WG1665306,ICAL19119
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 20 13:39:16 2022
Quant Method : I:\VOLATILES\VOA104\2022\2207120A\V104_220621A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 22 06:56:43 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list120A\V042207120A01.D•

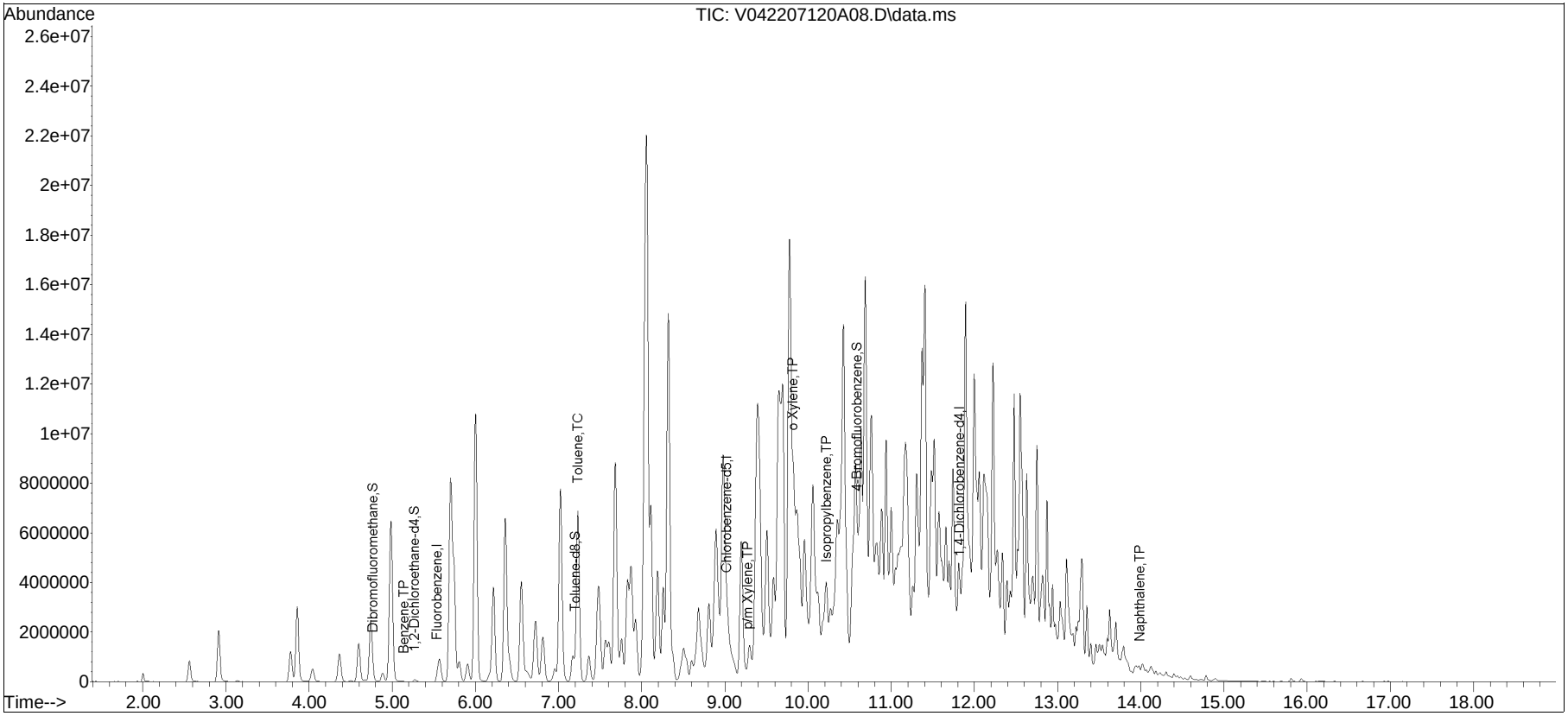


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA104\2022\2207120A\
Data File : V042207120A08.D
Acq On : 20 Jul 2022 10:09 am
Operator : VOA104:NLK
Sample : L2237250-07,31,5.81,5,,B,R2F
Misc : WG1665306,ICAL19119
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 20 13:41:00 2022
Quant Method : I:\VOLATILES\VOA104\2022\2207120A\V104_220621A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 22 06:56:43 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list120A\V042207120A01.D•



ANALYTICAL REPORT

Lab Number:	L2237705
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/21/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2237705-01	PB-826-11-SS01	SOIL	PHILADELPHIA, PA	07/14/22 08:15	07/14/22
L2237705-02	PB-826-12-SS01	SOIL	PHILADELPHIA, PA	07/14/22 08:30	07/14/22
L2237705-03	PB-826-13-SS01	SOIL	PHILADELPHIA, PA	07/14/22 08:45	07/14/22
L2237705-04	PB-826-14-SS01	SOIL	PHILADELPHIA, PA	07/14/22 09:00	07/14/22
L2237705-05	PB-826-15-SS01	SOIL	PHILADELPHIA, PA	07/14/22 09:15	07/14/22
L2237705-06	PB-826-16-SS01	SOIL	PHILADELPHIA, PA	07/14/22 09:30	07/14/22
L2237705-07	PB-884-08-SS01	SOIL	PHILADELPHIA, PA	07/14/22 10:15	07/14/22
L2237705-08	PB-884-09-SS01	SOIL	PHILADELPHIA, PA	07/14/22 10:30	07/14/22
L2237705-09	PB-884-13-SS01	SOIL	PHILADELPHIA, PA	07/14/22 10:45	07/14/22
L2237705-10	PB-884-14-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:00	07/14/22
L2237705-11	PB-884-15-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:15	07/14/22
L2237705-12	PB-884-16-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:30	07/14/22
L2237705-13	PB-884-17-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:45	07/14/22
L2237705-14	PB-884-18-SS01	SOIL	PHILADELPHIA, PA	07/14/22 12:00	07/14/22
L2237705-15	PB-884-19-SS01	SOIL	PHILADELPHIA, PA	07/14/22 12:15	07/14/22
L2237705-16	PB-884-20-SS01	SOIL	PHILADELPHIA, PA	07/14/22 12:30	07/14/22
L2237705-17	PB-884-21-SS01	SOIL	PHILADELPHIA, PA	07/14/22 12:45	07/14/22
L2237705-18	PB-884-23-SS01	SOIL	PHILADELPHIA, PA	07/14/22 13:00	07/14/22
L2237705-19	DUP-44	SOIL	PHILADELPHIA, PA	07/14/22 00:00	07/14/22
L2237705-20	FB-071422-3	WATER	PHILADELPHIA, PA	07/14/22 13:05	07/14/22
L2237705-21	FB-071422-4	WATER	PHILADELPHIA, PA	07/14/22 13:10	07/14/22
L2237705-22	TB-071422	WATER	PHILADELPHIA, PA	07/14/22 00:00	07/14/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237705
Project Number:	200.00135.006	**Report Date:**	07/21/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237705
Project Number:	200.00135.006	**Report Date:**	07/21/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2237705-07: The surrogate recovery was outside the acceptance criteria for 1,2-dichloroethane-d4 (131%) due to obvious interferences. A copy of the chromatogram is included as an attachment to this report. The sample was analyzed as a High Level Methanol in order to quantitate result(s) within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial Low Level analysis. The results of both analyses are reported. Differences were noted between the results of the Volatile Organics by EPA Method 5035/8260 High and Low Level analyses which have been attributed to vial discrepancies.

L2237705-08: The surrogate recoveries are outside the acceptance criteria for toluene-d8 (139%) and 4-bromofluorobenzene (149%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2237705-11: The surrogate recoveries are outside the acceptance criteria for toluene-d8 (157%) and 4-bromofluorobenzene (157%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2237705-19: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (143%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Semivolatile Organics by SIM

The WG1663477-1 Method Blank, associated with L2237705-20 and -21, has a concentration above the reporting limit for benzo(b)fluoranthene. Since the associated sample concentrations are either greater than 10x the blank concentration or non-detect to the RL for this target analyte, no corrective action is required. Any results detected below the reporting limit are qualified with a "B".

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Case Narrative (continued)

Total Metals

L2237705-01, -02, -03, -07, and -14: The sample has an elevated detection limit for lead due to the dilution required by matrix interferences encountered during analysis.

The WG1663364-3 MS recovery, performed on L2237705-15, is outside the acceptance criteria for lead (58%). A post digestion spike was performed and yielded an unacceptable recovery of 32%. The serial dilution recovery was not applicable; therefore, this element fails the matrix test and the result reported in the native sample should be considered estimated.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 07/21/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-01
Client ID: PB-826-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 08:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 14:07
Analyst: NLK
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00059	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00064	1
1,2-Dibromoethane	ND		mg/kg	0.00059	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0024	0.00066	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-02
Client ID: PB-826-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 08:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 14:36
Analyst: NLK
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00061	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-03
Client ID: PB-826-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 08:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 15:06
Analyst: NLK
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0028	0.00028	1
Benzene	ND		mg/kg	0.00070	0.00023	1
1,2-Dichloroethane	ND		mg/kg	0.0014	0.00036	1
Toluene	ND		mg/kg	0.0014	0.00076	1
1,2-Dibromoethane	ND		mg/kg	0.00070	0.00041	1
Ethylbenzene	ND		mg/kg	0.0014	0.00020	1
p/m-Xylene	ND		mg/kg	0.0028	0.00079	1
o-Xylene	ND		mg/kg	0.0014	0.00041	1
Xylenes, Total	ND		mg/kg	0.0014	0.00041	1
Isopropylbenzene	ND		mg/kg	0.0014	0.00015	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0028	0.00027	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0028	0.00047	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-04
Client ID: PB-826-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 21:40
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.12	0.012	1
Benzene	ND		mg/kg	0.031	0.010	1
1,2-Dichloroethane	ND		mg/kg	0.062	0.016	1
Toluene	ND		mg/kg	0.062	0.034	1
1,2-Dibromoethane	ND		mg/kg	0.031	0.018	1
Ethylbenzene	0.73		mg/kg	0.062	0.0087	1
p/m-Xylene	0.16		mg/kg	0.12	0.035	1
o-Xylene	0.054	J	mg/kg	0.062	0.018	1
Xylenes, Total	0.21	J	mg/kg	0.062	0.018	1
Isopropylbenzene	0.28		mg/kg	0.062	0.0068	1
1,3,5-Trimethylbenzene	4.4		mg/kg	0.12	0.012	1
1,2,4-Trimethylbenzene	12.		mg/kg	0.12	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	85		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-05
Client ID: PB-826-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 16:09
Analyst: AJK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0034	0.00035	1
Benzene	ND		mg/kg	0.00086	0.00029	1
1,2-Dichloroethane	ND		mg/kg	0.0017	0.00044	1
Toluene	ND		mg/kg	0.0017	0.00094	1
1,2-Dibromoethane	ND		mg/kg	0.00086	0.00051	1
Ethylbenzene	ND		mg/kg	0.0017	0.00024	1
p/m-Xylene	ND		mg/kg	0.0034	0.00097	1
o-Xylene	ND		mg/kg	0.0017	0.00050	1
Xylenes, Total	ND		mg/kg	0.0017	0.00050	1
Isopropylbenzene	ND		mg/kg	0.0017	0.00019	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0034	0.00033	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0034	0.00058	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-06
Client ID: PB-826-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 16:09
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0036	0.00036	1
Benzene	ND		mg/kg	0.00089	0.00030	1
1,2-Dichloroethane	ND		mg/kg	0.0018	0.00046	1
Toluene	ND		mg/kg	0.0018	0.00096	1
1,2-Dibromoethane	ND		mg/kg	0.00089	0.00052	1
Ethylbenzene	ND		mg/kg	0.0018	0.00025	1
p/m-Xylene	ND		mg/kg	0.0036	0.0010	1
o-Xylene	ND		mg/kg	0.0018	0.00052	1
Xylenes, Total	ND		mg/kg	0.0018	0.00052	1
Isopropylbenzene	ND		mg/kg	0.0018	0.00019	1
1,3,5-Trimethylbenzene	0.00089	J	mg/kg	0.0036	0.00034	1
1,2,4-Trimethylbenzene	0.00061	J	mg/kg	0.0036	0.00059	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-07
Client ID: PB-884-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 22:09
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.013	1
Benzene	0.15		mg/kg	0.033	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.065	0.017	1
Toluene	0.082		mg/kg	0.065	0.035	1
1,2-Dibromoethane	ND		mg/kg	0.033	0.019	1
Ethylbenzene	0.14		mg/kg	0.065	0.0092	1
p/m-Xylene	4.9		mg/kg	0.13	0.036	1
o-Xylene	0.50		mg/kg	0.065	0.019	1
Xylenes, Total	5.4		mg/kg	0.065	0.019	1
Isopropylbenzene	0.080		mg/kg	0.065	0.0071	1
1,3,5-Trimethylbenzene	0.66		mg/kg	0.13	0.012	1
1,2,4-Trimethylbenzene	2.1		mg/kg	0.13	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-07
Client ID: PB-884-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/21/22 06:20
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0016	0.00016	1
Benzene	0.020		mg/kg	0.00040	0.00013	1
1,2-Dichloroethane	0.00061	J	mg/kg	0.00080	0.00020	1
Toluene	0.00095		mg/kg	0.00080	0.00043	1
1,2-Dibromoethane	ND		mg/kg	0.00040	0.00023	1
Ethylbenzene	0.022		mg/kg	0.00080	0.00011	1
p/m-Xylene	1.4	E	mg/kg	0.0016	0.00045	1
o-Xylene	0.054		mg/kg	0.00080	0.00023	1
Isopropylbenzene	0.014		mg/kg	0.00080	0.00008	1
1,3,5-Trimethylbenzene	0.12		mg/kg	0.0016	0.00015	1
1,2,4-Trimethylbenzene	0.34	E	mg/kg	0.0016	0.00027	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**131**	Q	70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-08
Client ID: PB-884-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/20/22 17:38
Analyst: JC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.14	0.014	1
Benzene	2.0		mg/kg	0.034	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.068	0.017	1
Toluene	13.		mg/kg	0.068	0.037	1
1,2-Dibromoethane	ND		mg/kg	0.034	0.020	1
Ethylbenzene	6.6		mg/kg	0.068	0.0096	1
p/m-Xylene	28.		mg/kg	0.14	0.038	1
o-Xylene	13.		mg/kg	0.068	0.020	1
Xylenes, Total	41.		mg/kg	0.068	0.020	1
Isopropylbenzene	2.8		mg/kg	0.068	0.0074	1
1,3,5-Trimethylbenzene	3.7		mg/kg	0.14	0.013	1
1,2,4-Trimethylbenzene	12.		mg/kg	0.14	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	71		70-130
Toluene-d8	**139**	Q	70-130
4-Bromofluorobenzene	**149**	Q	70-130
Dibromofluoromethane	71		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-09
Client ID: PB-884-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 16:40
Analyst: NLK
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00057	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00031	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-10
Client ID: PB-884-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 17:11
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00060	1
o-Xylene	ND		mg/kg	0.0011	0.00031	1
Xylenes, Total	ND		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-11
Client ID: PB-884-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/21/22 09:34
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.12	0.012	1
Benzene	2.6		mg/kg	0.029	0.0098	1
1,2-Dichloroethane	ND		mg/kg	0.059	0.015	1
Toluene	9.0		mg/kg	0.059	0.032	1
1,2-Dibromoethane	ND		mg/kg	0.029	0.017	1
Ethylbenzene	8.8		mg/kg	0.059	0.0083	1
p/m-Xylene	32.		mg/kg	0.12	0.033	1
o-Xylene	15.		mg/kg	0.059	0.017	1
Xylenes, Total	47.		mg/kg	0.059	0.017	1
Isopropylbenzene	3.6		mg/kg	0.059	0.0064	1
1,3,5-Trimethylbenzene	4.5		mg/kg	0.12	0.011	1
1,2,4-Trimethylbenzene	14.		mg/kg	0.12	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	**157**	Q	70-130
4-Bromofluorobenzene	**157**	Q	70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-12
Client ID: PB-884-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 17:41
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0036	0.00036	1
Benzene	ND		mg/kg	0.00090	0.00030	1
1,2-Dichloroethane	ND		mg/kg	0.0018	0.00046	1
Toluene	ND		mg/kg	0.0018	0.00097	1
1,2-Dibromoethane	ND		mg/kg	0.00090	0.00052	1
Ethylbenzene	ND		mg/kg	0.0018	0.00025	1
p/m-Xylene	ND		mg/kg	0.0036	0.0010	1
o-Xylene	ND		mg/kg	0.0018	0.00052	1
Xylenes, Total	ND		mg/kg	0.0018	0.00052	1
Isopropylbenzene	ND		mg/kg	0.0018	0.00020	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0036	0.00035	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0036	0.00060	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-13
Client ID: PB-884-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 18:11
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00024	1
Benzene	ND		mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00063	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00065	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-14
Client ID: PB-884-18-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 12:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 18:41
Analyst: NLK
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00054	J	mg/kg	0.0022	0.00022	1
Benzene	0.035		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	0.024		mg/kg	0.0011	0.00015	1
p/m-Xylene	0.026		mg/kg	0.0022	0.00061	1
o-Xylene	0.0015		mg/kg	0.0011	0.00032	1
Xylenes, Total	0.028		mg/kg	0.0011	0.00032	1
Isopropylbenzene	0.0053		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.010		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	0.033		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-15
Client ID: PB-884-19-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 12:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 19:11
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	0.00036	J	mg/kg	0.00057	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00057	0.00033	1
Ethylbenzene	0.0024		mg/kg	0.0011	0.00016	1
p/m-Xylene	0.024		mg/kg	0.0023	0.00063	1
o-Xylene	0.026		mg/kg	0.0011	0.00033	1
Xylenes, Total	0.050		mg/kg	0.0011	0.00033	1
Isopropylbenzene	0.0044		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.022		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	0.052		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	129		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-16
Client ID: PB-884-20-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 19:40
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-17
Client ID: PB-884-21-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 20:10
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00047	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00094	0.00024	1
Toluene	ND		mg/kg	0.00094	0.00051	1
1,2-Dibromoethane	ND		mg/kg	0.00047	0.00028	1
Ethylbenzene	ND		mg/kg	0.00094	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00053	1
o-Xylene	ND		mg/kg	0.00094	0.00028	1
Xylenes, Total	ND		mg/kg	0.00094	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00094	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-18
Client ID: PB-884-23-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 13:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 06:09
Analyst: JC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	84		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	107		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-19
Client ID: DUP-44
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 00:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 17:58
Analyst: JC
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.14	0.014	1
Benzene	0.068		mg/kg	0.036	0.012	1
1,2-Dichloroethane	ND		mg/kg	0.071	0.018	1
Toluene	0.051	J	mg/kg	0.071	0.038	1
1,2-Dibromoethane	ND		mg/kg	0.036	0.021	1
Ethylbenzene	0.56		mg/kg	0.071	0.010	1
p/m-Xylene	21.		mg/kg	0.14	0.040	1
o-Xylene	8.4		mg/kg	0.071	0.021	1
Xylenes, Total	29.		mg/kg	0.071	0.021	1
Isopropylbenzene	1.0		mg/kg	0.071	0.0077	1
1,3,5-Trimethylbenzene	4.8		mg/kg	0.14	0.014	1
1,2,4-Trimethylbenzene	15.		mg/kg	0.14	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	**143**	Q	70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-20
Client ID: FB-071422-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 13:05
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 18:03
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-20
Client ID: FB-071422-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 13:05
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/17/22 14:16
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	128		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	119		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-21
Client ID: FB-071422-4
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 13:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 18:10
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-21
Client ID: FB-071422-4
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 13:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/17/22 14:38
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**131**	Q	70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	120		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-22
Client ID: TB-071422
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 00:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 18:16
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-22
Client ID: TB-071422
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 00:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/17/22 14:59
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	127		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	124		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/15/22 16:10
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 20-22 Batch: WG1663450-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/17/22 13:55
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 20-22 Batch: WG1664113-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
1,2-Dibromoethane	ND		ug/l	2.0	0.19
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	127		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	117		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/18/22 13:35
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-03,06,09-10,12-17 Batch: WG1664656-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/18/22 13:35
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 04,07 Batch: WG1664660-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/18/22 21:42
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 18 Batch: WG1664672-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/19/22 09:51
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 05 Batch: WG1664964-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/19/22 16:38
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 19 Batch: WG1665199-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/20/22 08:50
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 08 Batch: WG1665578-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	91		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/20/22 23:10
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 07 Batch: WG1665590-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/21/22 08:51
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 11 Batch: WG1665734-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	100		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237705

Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 20-22 Batch: WG1663450-2								
1,2-Dibromoethane	97		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237705

Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 20-22 Batch: WG1664113-3 WG1664113-4								
Methyl tert butyl ether	90		86		63-130	5		20
Benzene	86		82		70-130	5		20
1,2-Dichloroethane	100		96		70-130	4		20
Toluene	83		84		70-130	1		20
1,2-Dibromoethane	83		82		70-130	1		20
Ethylbenzene	90		91		70-130	1		20
p/m-Xylene	90		90		70-130	0		20
o-Xylene	90		90		70-130	0		20
Isopropylbenzene	86		87		70-130	1		20
1,3,5-Trimethylbenzene	90		92		64-130	2		20
1,2,4-Trimethylbenzene	89		88		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	117		116		70-130
Toluene-d8	98		97		70-130
4-Bromofluorobenzene	98		99		70-130
Dibromofluoromethane	109		111		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-03,06,09-10,12-17 Batch: WG1664656-3 WG1664656-4								
Methyl tert butyl ether	115		118		66-130	3		30
Benzene	108		108		70-130	0		30
1,2-Dichloroethane	96		100		70-130	4		30
Toluene	108		109		70-130	1		30
1,2-Dibromoethane	106		110		70-130	4		30
Ethylbenzene	106		107		70-130	1		30
p/m-Xylene	107		108		70-130	1		30
o-Xylene	106		108		70-130	2		30
Isopropylbenzene	111		110		70-130	1		30
1,3,5-Trimethylbenzene	107		107		70-130	0		30
1,2,4-Trimethylbenzene	107		108		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		96		70-130
Toluene-d8	102		103		70-130
4-Bromofluorobenzene	106		106		70-130
Dibromofluoromethane	91		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 04,07 Batch: WG1664660-3 WG1664660-4								
Methyl tert butyl ether	115		118		66-130	3		30
Benzene	108		108		70-130	0		30
1,2-Dichloroethane	96		100		70-130	4		30
Toluene	108		109		70-130	1		30
1,2-Dibromoethane	106		110		70-130	4		30
Ethylbenzene	106		107		70-130	1		30
p/m-Xylene	107		108		70-130	1		30
o-Xylene	106		108		70-130	2		30
Isopropylbenzene	111		110		70-130	1		30
1,3,5-Trimethylbenzene	107		107		70-130	0		30
1,2,4-Trimethylbenzene	107		108		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		96		70-130
Toluene-d8	102		103		70-130
4-Bromofluorobenzene	106		106		70-130
Dibromofluoromethane	91		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 18 Batch: WG1664672-3 WG1664672-4								
Methyl tert butyl ether	90		90		66-130	0		30
Benzene	90		90		70-130	0		30
1,2-Dichloroethane	90		90		70-130	0		30
Toluene	90		92		70-130	2		30
1,2-Dibromoethane	96		98		70-130	2		30
Ethylbenzene	89		90		70-130	1		30
p/m-Xylene	94		96		70-130	2		30
o-Xylene	93		94		70-130	1		30
Isopropylbenzene	72		87		70-130	19		30
1,3,5-Trimethylbenzene	85		87		70-130	2		30
1,2,4-Trimethylbenzene	83		86		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		100		70-130
Toluene-d8	98		102		70-130
4-Bromofluorobenzene	83		84		70-130
Dibromofluoromethane	106		105		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 05 Batch: WG1664964-3 WG1664964-4								
Methyl tert butyl ether	122		119		66-130	2		30
Benzene	110		103		70-130	7		30
1,2-Dichloroethane	102		100		70-130	2		30
Toluene	108		103		70-130	5		30
1,2-Dibromoethane	109		109		70-130	0		30
Ethylbenzene	107		102		70-130	5		30
p/m-Xylene	109		103		70-130	6		30
o-Xylene	108		103		70-130	5		30
Isopropylbenzene	110		103		70-130	7		30
1,3,5-Trimethylbenzene	107		101		70-130	6		30
1,2,4-Trimethylbenzene	108		102		70-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		96		70-130
Toluene-d8	102		102		70-130
4-Bromofluorobenzene	105		105		70-130
Dibromofluoromethane	93		92		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237705

Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 19 Batch: WG1665199-3 WG1665199-4								
Methyl tert butyl ether	81		84		66-130	4		30
Benzene	77		80		70-130	4		30
1,2-Dichloroethane	75		78		70-130	4		30
Toluene	71		73		70-130	3		30
1,2-Dibromoethane	79		82		70-130	4		30
Ethylbenzene	72		76		70-130	5		30
p/m-Xylene	73		76		70-130	4		30
o-Xylene	77		80		70-130	4		30
Isopropylbenzene	74		75		70-130	1		30
1,3,5-Trimethylbenzene	74		77		70-130	4		30
1,2,4-Trimethylbenzene	74		77		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	96		96		70-130
4-Bromofluorobenzene	98		97		70-130
Dibromofluoromethane	102		101		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 08 Batch: WG1665578-3 WG1665578-4								
Methyl tert butyl ether	100		98		66-130	2		30
Benzene	88		84		70-130	5		30
1,2-Dichloroethane	**69**	Q	**66**	Q	70-130	4		30
Toluene	88		85		70-130	3		30
1,2-Dibromoethane	85		83		70-130	2		30
Ethylbenzene	85		82		70-130	4		30
p/m-Xylene	88		86		70-130	2		30
o-Xylene	87		84		70-130	4		30
Isopropylbenzene	92		89		70-130	3		30
1,3,5-Trimethylbenzene	88		86		70-130	2		30
1,2,4-Trimethylbenzene	87		85		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	76		75		70-130
Toluene-d8	102		101		70-130
4-Bromofluorobenzene	104		103		70-130
Dibromofluoromethane	78		77		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 07 Batch: WG1665590-3 WG1665590-4								
Methyl tert butyl ether	102		98		66-130	4		30
Benzene	104		102		70-130	2		30
1,2-Dichloroethane	104		100		70-130	4		30
Toluene	100		99		70-130	1		30
1,2-Dibromoethane	102		98		70-130	4		30
Ethylbenzene	103		101		70-130	2		30
p/m-Xylene	104		103		70-130	1		30
o-Xylene	103		101		70-130	2		30
Isopropylbenzene	97		97		70-130	0		30
1,3,5-Trimethylbenzene	99		98		70-130	1		30
1,2,4-Trimethylbenzene	98		98		70-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		97		70-130
Toluene-d8	99		98		70-130
4-Bromofluorobenzene	98		96		70-130
Dibromofluoromethane	100		99		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237705

Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 11 Batch: WG1665734-3 WG1665734-4								
Methyl tert butyl ether	91		90		66-130	1		30
Benzene	95		92		70-130	3		30
1,2-Dichloroethane	98		95		70-130	3		30
Toluene	90		87		70-130	3		30
1,2-Dibromoethane	94		91		70-130	3		30
Ethylbenzene	96		92		70-130	4		30
p/m-Xylene	95		91		70-130	4		30
o-Xylene	94		91		70-130	3		30
Isopropylbenzene	95		91		70-130	4		30
1,3,5-Trimethylbenzene	96		91		70-130	5		30
1,2,4-Trimethylbenzene	95		92		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	105		104		70-130
Toluene-d8	99		98		70-130
4-Bromofluorobenzene	97		96		70-130
Dibromofluoromethane	98		98		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-01
Client ID: PB-826-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 08:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 14:40
Analyst: SLR
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.034	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-02
Client ID: PB-826-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 08:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 15:02
Analyst: SLR
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-03
Client ID: PB-826-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 08:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 15:25
Analyst: SLR
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.044	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	87		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-04
Client ID: PB-826-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 15:48
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.32		mg/kg	0.19	0.024	1
Fluorene	0.18	J	mg/kg	0.19	0.019	1
Phenanthrene	0.64		mg/kg	0.12	0.024	1
Anthracene	0.061	J	mg/kg	0.12	0.038	1
Pyrene	0.16		mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.030	J	mg/kg	0.12	0.022	1
Chrysene	0.042	J	mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	91		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-05
Client ID: PB-826-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 16:11
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.052	J	mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	0.15		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	0.18		mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.069	J	mg/kg	0.12	0.022	1
Chrysene	0.095	J	mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.055	J	mg/kg	0.12	0.032	1
Benzo(a)pyrene	0.053	J	mg/kg	0.15	0.047	1
Benzo(ghi)perylene	0.041	J	mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	81		30-120
4-Terphenyl-d14	93		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-06
Client ID: PB-826-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 16:34
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.025	J	mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	71		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-07
Client ID: PB-884-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 16:56
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.84		mg/kg	0.19	0.023	1
Fluorene	0.25		mg/kg	0.19	0.018	1
Phenanthrene	0.45		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	0.13		mg/kg	0.11	0.019	1
Benzo(a)anthracene	0.058	J	mg/kg	0.11	0.022	1
Chrysene	0.11		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	0.080	J	mg/kg	0.11	0.032	1
Benzo(a)pyrene	0.055	J	mg/kg	0.15	0.047	1
Benzo(ghi)perylene	0.041	J	mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	67		23-120
2-Fluorobiphenyl	68		30-120
4-Terphenyl-d14	85		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-08
Client ID: PB-884-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 17:19
Analyst: SLR
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	3.2		mg/kg	0.17	0.021	1
Fluorene	0.25		mg/kg	0.17	0.017	1
Phenanthrene	0.70		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	0.056	J	mg/kg	0.10	0.017	1
Benzo(a)anthracene	0.022	J	mg/kg	0.10	0.019	1
Chrysene	0.092	J	mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	110		23-120
2-Fluorobiphenyl	89		30-120
4-Terphenyl-d14	105		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-09
Client ID: PB-884-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 17:42
Analyst: SLR
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	81		30-120
4-Terphenyl-d14	95		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-10
Client ID: PB-884-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 18:04
Analyst: SLR
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	87		30-120
4-Terphenyl-d14	101		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-11
Client ID: PB-884-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 18:27
Analyst: SLR
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 21:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.85		mg/kg	0.17	0.021	1
Fluorene	0.13	J	mg/kg	0.17	0.017	1
Phenanthrene	0.45		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	0.036	J	mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	0.059	J	mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	81		30-120
4-Terphenyl-d14	92		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-12
Client ID: PB-884-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 15:48
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	61		30-120
4-Terphenyl-d14	65		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-13
Client ID: PB-884-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 18:50
Analyst: SLR
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.021	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	86		30-120
4-Terphenyl-d14	98		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-14
Client ID: PB-884-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 19:13
Analyst: SLR
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.050	J	mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	79		30-120
4-Terphenyl-d14	88		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-15
Client ID: PB-884-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 19:35
Analyst: SLR
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.085	J	mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	0.040	J	mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-16
Client ID: PB-884-20-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 19:58
Analyst: SLR
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	83		30-120
4-Terphenyl-d14	96		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-17
Client ID: PB-884-21-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 16:12
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	92		23-120
2-Fluorobiphenyl	85		30-120
4-Terphenyl-d14	100		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-18
Client ID: PB-884-23-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 13:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 20:21
Analyst: SLR
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	87		30-120
4-Terphenyl-d14	101		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-19
Client ID: DUP-44
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 00:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 20:44
Analyst: SLR
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	2.7		mg/kg	0.17	0.021	1
Fluorene	0.39		mg/kg	0.17	0.017	1
Phenanthrene	0.99		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	0.085	J	mg/kg	0.10	0.017	1
Benzo(a)anthracene	0.027	J	mg/kg	0.10	0.020	1
Chrysene	0.15		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	0.029	J	mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	0.027	J	mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	88		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-20
Client ID: FB-071422-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 13:05
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/17/22 18:09
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/15/22 15:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	37		23-120
2-Fluorobiphenyl	39		15-120
4-Terphenyl-d14	42		41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-21
Client ID: FB-071422-4
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 13:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/17/22 18:24
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/15/22 15:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	37		23-120
2-Fluorobiphenyl	39		15-120
4-Terphenyl-d14	43		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/20/22 16:29
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/15/22 15:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 20-21 Batch: WG1663477-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	0.03	J	ug/l	0.10	0.02
Benzo(a)anthracene	0.05	J	ug/l	0.05	0.02
Chrysene	0.04	J	ug/l	0.10	0.01
Benzo(b)fluoranthene	0.07		ug/l	0.05	0.01
Benzo(a)pyrene	0.04	J	ug/l	0.10	0.02
Benzo(ghi)perylene	0.05	J	ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	33		23-120
2-Fluorobiphenyl	34		15-120
4-Terphenyl-d14	**32**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/18/22 13:32
Analyst: SLR

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-11,13-16,18-19 Batch: WG1663526-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.027
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	88		30-120
4-Terphenyl-d14	103		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/16/22 14:36
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 12,17 Batch: WG1663537-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.027
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	95		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 20-21 Batch: WG1663477-2 WG1663477-3								
Naphthalene	69		78		40-140	12		40
Fluorene	70		83		40-140	17		40
Phenanthrene	68		81		40-140	17		40
Anthracene	68		82		40-140	19		40
Pyrene	74		96		26-127	26		40
Benzo(a)anthracene	66		90		40-140	31		40
Chrysene	71		101		40-140	35		40
Benzo(b)fluoranthene	68		90		40-140	28		40
Benzo(a)pyrene	67		90		40-140	29		40
Benzo(ghi)perylene	76		99		40-140	26		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	38		42		23-120
2-Fluorobiphenyl	39		43		15-120
4-Terphenyl-d14	**40**	Q	46		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237705

Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-11,13-16,18-19 Batch: WG1663526-2 WG1663526-3								
Naphthalene	74		80		40-140	8		50
Fluorene	83		84		40-140	1		50
Phenanthrene	76		79		40-140	4		50
Anthracene	81		83		40-140	2		50
Pyrene	79		82		35-142	4		50
Benzo(a)anthracene	84		87		40-140	4		50
Chrysene	80		84		40-140	5		50
Benzo(b)fluoranthene	94		96		40-140	2		50
Benzo(a)pyrene	94		100		40-140	6		50
Benzo(ghi)perylene	85		86		40-140	1		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	78		84		23-120
2-Fluorobiphenyl	83		84		30-120
4-Terphenyl-d14	93		94		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237705

Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 12,17 Batch: WG1663537-2 WG1663537-3								
Naphthalene	70		70		40-140	0		50
Fluorene	76		73		40-140	4		50
Phenanthrene	75		73		40-140	3		50
Anthracene	78		75		40-140	4		50
Pyrene	79		75		35-142	5		50
Benzo(a)anthracene	82		80		40-140	2		50
Chrysene	81		79		40-140	3		50
Benzo(b)fluoranthene	87		84		40-140	4		50
Benzo(a)pyrene	91		87		40-140	4		50
Benzo(ghi)perylene	81		78		40-140	4		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	78		82		23-120
2-Fluorobiphenyl	76		74		30-120
4-Terphenyl-d14	88		82		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-01
Client ID: PB-826-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 08:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.61	J	mg/kg	4.12	0.220	2	07/15/22 12:45	07/19/22 00:18	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-02
Client ID: PB-826-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 08:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.00	J	mg/kg	4.04	0.216	2	07/15/22 12:45	07/19/22 00:23	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-03
Client ID: PB-826-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 08:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.29		mg/kg	4.12	0.221	2	07/15/22 12:45	07/19/22 22:07	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-04
Client ID: PB-826-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	8.32		mg/kg	2.23	0.120	1	07/15/22 12:45	07/18/22 23:46	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-05
Client ID: PB-826-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	162		mg/kg	2.20	0.118	1	07/15/22 12:45	07/18/22 23:50	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-06
Client ID: PB-826-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.77		mg/kg	2.22	0.119	1	07/15/22 12:45	07/18/22 23:55	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-07
Client ID: PB-884-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 10:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	60.2		mg/kg	4.36	0.234	2	07/15/22 12:45	07/19/22 22:13	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-08
Client ID: PB-884-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 10:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.95	J	mg/kg	1.99	0.107	1	07/15/22 12:45	07/19/22 00:04	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-09
Client ID: PB-884-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 10:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.20		mg/kg	2.13	0.114	1	07/15/22 12:45	07/19/22 00:09	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-10
Client ID: PB-884-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.63		mg/kg	1.99	0.106	1	07/15/22 12:45	07/19/22 00:14	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-11
Client ID: PB-884-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.68	J	mg/kg	2.02	0.108	1	07/15/22 12:45	07/19/22 00:46	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-12
Client ID: PB-884-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.86	J	mg/kg	2.00	0.108	1	07/15/22 12:45	07/19/22 00:51	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-13
Client ID: PB-884-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.99	J	mg/kg	2.01	0.108	1	07/15/22 12:45	07/19/22 00:56	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-14
Client ID: PB-884-18-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 12:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.17		mg/kg	4.64	0.248	2	07/15/22 12:45	07/19/22 22:18	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-15
Client ID: PB-884-19-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 12:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.61	J	mg/kg	2.08	0.112	1	07/15/22 20:44	07/20/22 07:04	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-16
Client ID: PB-884-20-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 12:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.04	J	mg/kg	2.06	0.110	1	07/15/22 20:44	07/20/22 10:01	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-17
Client ID: PB-884-21-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 12:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.98	J	mg/kg	2.05	0.110	1	07/15/22 20:44	07/20/22 10:05	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-18
Client ID: PB-884-23-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 13:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.61	J	mg/kg	2.08	0.112	1	07/15/22 20:44	07/20/22 10:10	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-19
Client ID: DUP-44
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 00:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.70	J	mg/kg	2.11	0.113	1	07/15/22 20:44	07/20/22 10:15	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-20
Client ID: FB-071422-3
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 13:05
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/15/22 14:25	07/18/22 20:19	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-21
Client ID: FB-071422-4
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Water

Date Collected: 07/14/22 13:10
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/15/22 14:25	07/18/22 21:07	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-14 Batch: WG1663337-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/15/22 12:45	07/18/22 20:58	1,6010D	BV

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 15-19 Batch: WG1663364-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/15/22 20:44	07/20/22 06:41	1,6010D	SB

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 20-21 Batch: WG1663390-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/15/22 14:25	07/18/22 18:50	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237705

Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-14 Batch: WG1663337-2 SRM Lot Number: D113-540								
Lead, Total	89		-		72-128	-		
Total Metals - Mansfield Lab Associated sample(s): 15-19 Batch: WG1663364-2 SRM Lot Number: D113-540								
Lead, Total	93		-		72-128	-		
Total Metals - Mansfield Lab Associated sample(s): 20-21 Batch: WG1663390-2								
Lead, Total	102		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-14 QC Batch ID: WG1663337-3 QC Sample: L2237664-01 Client ID: MS Sample												
Lead, Total	158	43	113	**0**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 15-19 QC Batch ID: WG1663364-3 QC Sample: L2237705-15 Client ID: PB-884-19-SS01												
Lead, Total	1.61J	44.2	25.7	**58**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 20-21 QC Batch ID: WG1663390-3 WG1663390-4 QC Sample: L2237672-03 Client ID: MS Sample												
Lead, Total	0.9553J	530	569.8	108		561.0	106		75-125	2		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-14 QC Batch ID: WG1663337-4 QC Sample: L2237664-01 Client ID: DUP Sample						
Lead, Total	158	81.4	mg/kg	**64**	Q	20
Total Metals - Mansfield Lab Associated sample(s): 15-19 QC Batch ID: WG1663364-4 QC Sample: L2237705-15 Client ID: PB-884-19-SS01						
Lead, Total	1.61J	1.98J	mg/kg	NC		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Serial Dilution Analysis
Batch Quality Control

Lab Number: L2237705
Report Date: 07/21/22

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-14 QC Batch ID: WG1663337-6 QC Sample: L2237664-01 Client ID: DUP Sample						
Lead, Total	158	207	mg/kg	**31**	Q	20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-01
Client ID: PB-826-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 08:15
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.6		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-02
Client ID: PB-826-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 08:30
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.5		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-03
Client ID: PB-826-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 08:45
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.1		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-04
Client ID: PB-826-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 09:00
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.6		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-05
Client ID: PB-826-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 09:15
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.9		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-06
Client ID: PB-826-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 09:30
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.7		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-07
Client ID: PB-884-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 10:15
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.4		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-08
Client ID: PB-884-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 10:30
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.7		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-09
Client ID: PB-884-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 10:45
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.6		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-10
Client ID: PB-884-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 11:00
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.7		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-11
Client ID: PB-884-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 11:15
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.0		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-12
Client ID: PB-884-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 11:30
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.5		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-13
Client ID: PB-884-17-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 11:45
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.6		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-14
Client ID: PB-884-18-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 12:00
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.2		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-15
Client ID: PB-884-19-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 12:15
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.7		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-16
Client ID: PB-884-20-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 12:30
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.5		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-17
Client ID: PB-884-21-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 12:45
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.1		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-18
Client ID: PB-884-23-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 13:00
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.4		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-19
Client ID: DUP-44
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 00:00
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.7		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237705

Report Date: 07/21/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-19 QC Batch ID: WG1663375-1 QC Sample: L2237705-01 Client ID: PB-826-11-SS01						
Solids, Total	92.6	93.4	%	1		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent
D	Absent
E	Absent
F	Absent
G	Absent
H	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237705-01A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237705-01B	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-01C	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-01D	Plastic 120ml unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2237705-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237705-01F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237705-02A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237705-02B	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-02C	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-02D	Plastic 120ml unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2237705-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237705-02F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237705-03A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237705-03B	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-03C	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237705-03D	Plastic 120ml unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2237705-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237705-03F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237705-04A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237705-04B	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-04C	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-04D	Plastic 120ml unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2237705-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237705-04F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237705-05A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237705-05B	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-05C	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-05D	Plastic 120ml unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2237705-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237705-05F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237705-06A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237705-06B	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-06C	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-06D	Plastic 120ml unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2237705-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237705-06F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237705-07A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2237705-07B	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260H(14),PA-8260HLW(14)
L2237705-07C	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260H(14),PA-8260HLW(14)
L2237705-07D	Plastic 120ml unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2237705-07E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237705-07F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237705-08A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237705-08B	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-08C	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-08D	Plastic 120ml unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2237705-08E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237705-08F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237705-09A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237705-09B	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-09C	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-09D	Plastic 120ml unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2237705-09E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237705-09F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237705-10A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-10B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-10C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-10D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-10E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)
L2237705-10F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-11A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-11B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-11C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-11D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-11E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)
L2237705-11F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-12A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-12B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-12C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-12D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-12E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237705-12F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-13A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-13B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-13C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-13D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-13E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)
L2237705-13F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-14A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-14B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-14C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-14D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-14E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)
L2237705-14F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-15A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-15B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-15C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-15D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-15E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)
L2237705-15F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-16A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-16B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-16C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-16D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-16E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)
L2237705-16F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-17A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-17B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-17C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237705-17D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-17E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)
L2237705-17F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-18A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-18B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-18C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-18D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-18E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)
L2237705-18F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-19A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-19B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-19C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-19D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-19E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)
L2237705-19F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-20A	Vial HCl preserved	E	NA		3.7	Y	Absent		PA-8260(14)
L2237705-20B	Vial HCl preserved	E	NA		3.7	Y	Absent		PA-8260(14)
L2237705-20C	Vial HCl preserved	E	NA		3.7	Y	Absent		PA-8260(14)
L2237705-20D	Vial HCl preserved	E	NA		3.7	Y	Absent		8011(14)
L2237705-20E	Vial HCl preserved	E	NA		3.7	Y	Absent		8011(14)
L2237705-20F	Plastic 250ml HNO3 preserved	E	<2	<2	3.7	Y	Absent		PB-6020T-PPB(180)
L2237705-20G	Amber 250ml unpreserved	E	7	7	3.7	Y	Absent		PA-PAHSIM-LVI(7)
L2237705-20H	Amber 250ml unpreserved	E	7	7	3.7	Y	Absent		PA-PAHSIM-LVI(7)
L2237705-21A	Vial HCl preserved	E	NA		3.7	Y	Absent		PA-8260(14)
L2237705-21B	Vial HCl preserved	E	NA		3.7	Y	Absent		PA-8260(14)
L2237705-21C	Vial HCl preserved	E	NA		3.7	Y	Absent		PA-8260(14)
L2237705-21D	Vial HCl preserved	E	NA		3.7	Y	Absent		8011(14)
L2237705-21E	Vial HCl preserved	E	NA		3.7	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237705-21F	Plastic 250ml HNO3 preserved	E	<2	<2	3.7	Y	Absent		PB-6020T-PPB(180)
L2237705-21G	Amber 250ml unpreserved	E	7	7	3.7	Y	Absent		PA-PAHSIM-LVI(7)
L2237705-21H	Amber 250ml unpreserved	E	7	7	3.7	Y	Absent		PA-PAHSIM-LVI(7)
L2237705-22A	Vial HCl preserved	E	NA		3.7	Y	Absent		PA-8260(14)
L2237705-22B	Vial HCl preserved	E	NA		3.7	Y	Absent		8011(14)

Container Comments

L2237705-19B HEADSPACE

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237705
Project Number:	200.00135.006	**Report Date:**	07/21/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237705
Project Number:	200.00135.006	**Report Date:**	07/21/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237705
Project Number:	200.00135.006	**Report Date:**	07/21/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237705
Project Number:	200.00135.006	**Report Date:**	07/21/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 3

Date Rec'd in Lab: 7/15/22

ALPHA Job #: L2237705

ALPHA ANALYTICAL

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client Info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SHORTLIST 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
37705-01	PB-826-11-5501	7/14	0815	S	TS	
02	PB-826-12-5501		0830			
03	PB-826-13-5501		0845			
04	PB-826-14-5501		0900			
05	PB-826-15-5501		0915			
06	PB-826-16-5501		0930			
07	PB-884-08-5501		1015			
08	PB-884-09-5501		1030			
09	PB-884-13-5501		1045			
10	PB-884-14-5501		1100			

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
	7/14		
	7/14/22 1801		
	7/14/22 2150		

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(I-93)
(rev. 5-JAN-22)

CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA ANALYTICAL
Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/15/22

ALPHA Job #: L2237705

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SHORTLIST 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
37705-11	PB-884-15-5501	7/14	1115	S	TS	
12	PB-884-16-5501		1130			
13	PB-884-17-5501		1145			
14	PB-884-18-5501		1200			
15	PB-884-19-5501		1215			
16	PB-884-20-5501		1230			
17	PB-884-21-5501		1245			
18	PB-884-23-5501		1300			
19	DUP-44		-			
20	FB-071422-3		1305	W		

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/14		7/14/22 1550
	7/14/22 2100		7/14/22 2100
	7/14/22		7/14/22

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(H) (rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 3 OF 3

Date Rec'd in Lab: 7/15/22

ALPHA Job #: L2237705

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information

☐ FAX ☒ ADEx

Data Deliverables

☒ EMAIL ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Shortlist 1-5	VOC Petroleum 5L 1-5	EDB (8011)	Sample Specific Comments
37705-21	FB-071422-4	7/14	1310	W	TS	☑	☐	☐	
22	TB-071422		-	W	TS	☐	☑	☑	
						☐	☐	☐	
						☐	☐	☐	
						☐	☐	☐	
						☐	☐	☐	
						☐	☐	☐	
						☐	☐	☐	
						☐	☐	☐	
						☐	☐	☐	
						☐	☐	☐	

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
	7/14		
	7/14/22 1600		7/14/22 1550
	7/14 2100		7/14/22 2100
GL ARL - 71422	7/14/22	GL ARL 71422	7/14/22 2350

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(T)-(M)
(rev. 5-JAN-12)

PADEP Short List Analytical Suites per Table III-5:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

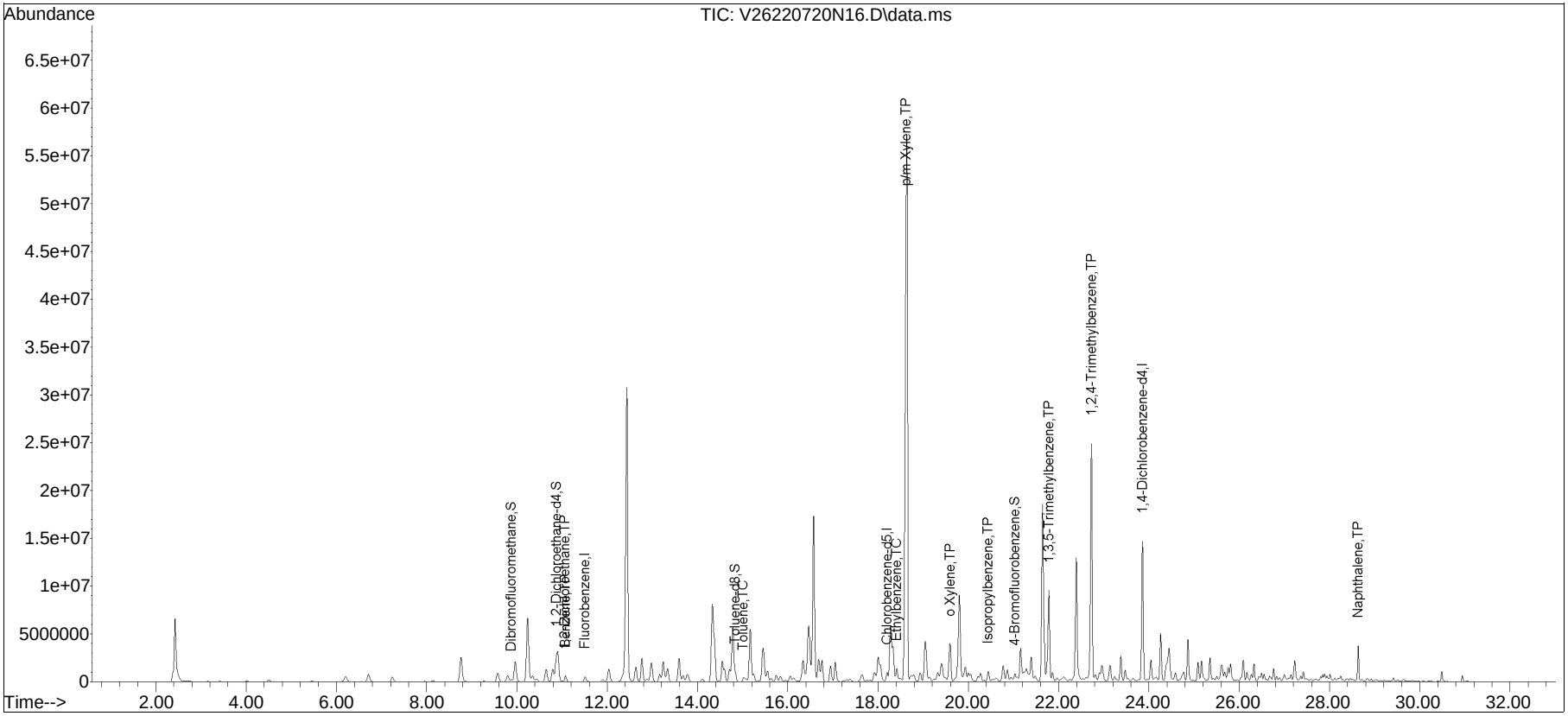
5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA126\2022\220720N\
Data File : V26220720N16.D
Acq On : 21 Jul 2022 06:20 am
Operator : VOA126:JC
Sample : l2237705-07,31,7.23,5,,c,r2f
Misc : WG1665590,ICAL19172
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 21 07:18:20 2022
Quant Method : I:\VOLATILES\VOA126\2022\220720N\V126_220713P_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Jul 14 06:55:13 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list20N\V26220720N01.D•

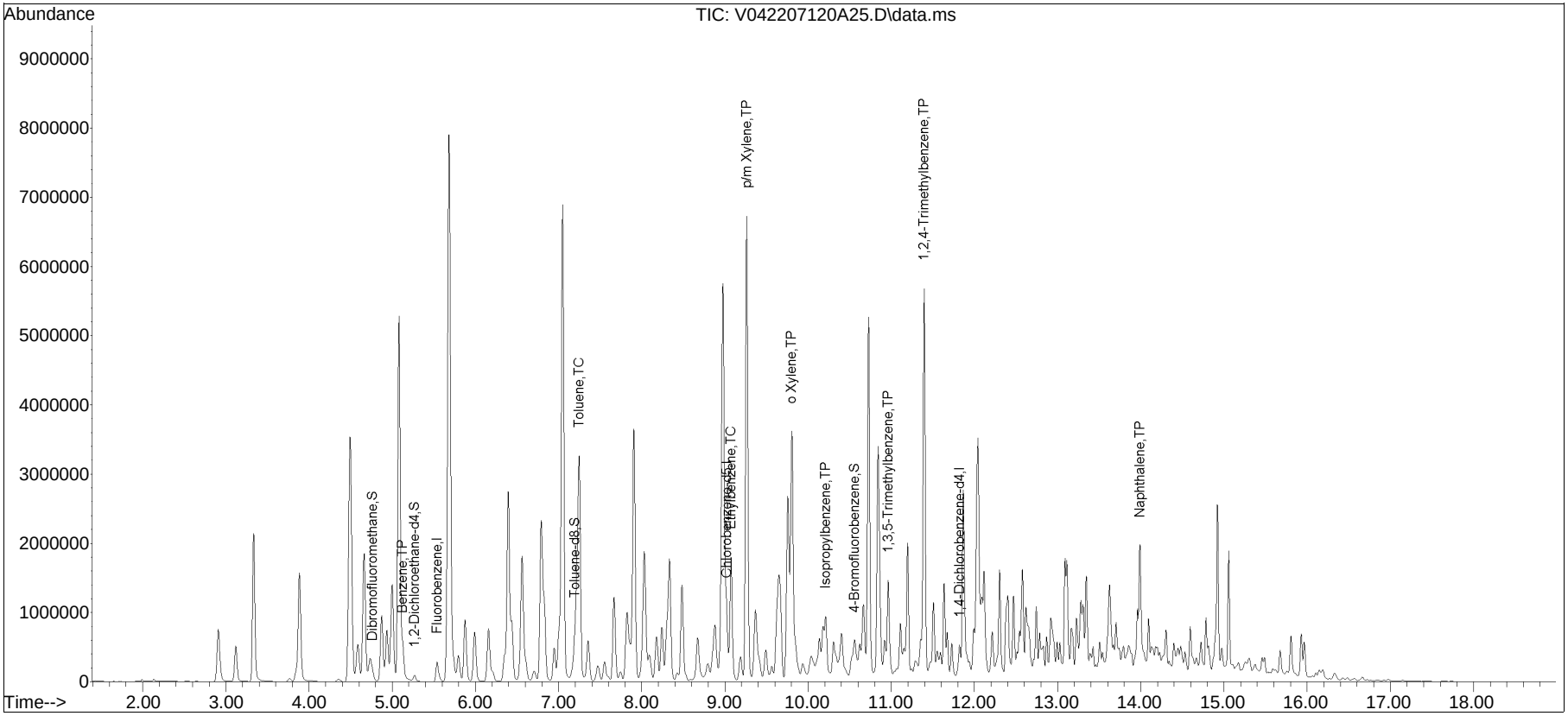


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA104\2022\2207120A\
Data File : V042207120A25.D
Acq On : 20 Jul 2022 5:38 pm
Operator : VOA104:JC
Sample : L2237705-08,31H,3.97,5,0.100,,A,R2F
Misc : WG1665578,ICAL19119
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jul 21 06:57:12 2022
Quant Method : I:\VOLATILES\VOA104\2022\2207120A\V104_220621A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 22 06:56:43 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list120A\V042207120A01.D•

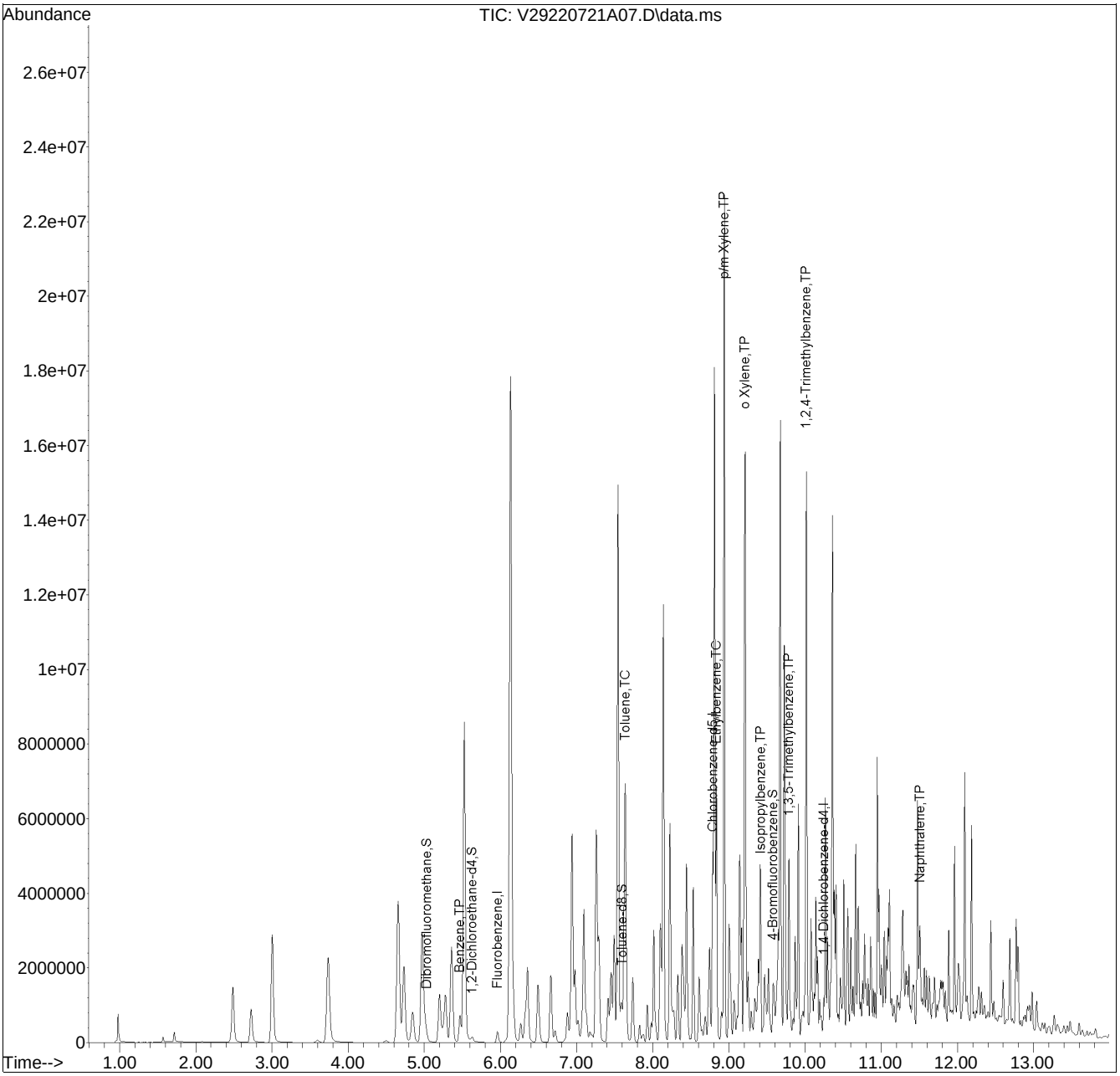


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA129\2022\220721A\
Data File : V29220721A07.D
Acq On : 21 Jul 2022 09:34 am
Operator : VOA129:MKS
Sample : L2237705-11,31H,4.67,5,0.100,,A,R2F
Misc : WG1665734,ICAL19173
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 21 11:01:20 2022
Quant Method : I:\VOLATILES\VOA129\2022\220721A\V129_220712N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Jul 14 08:00:36 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list21A\V29220721A01.D•

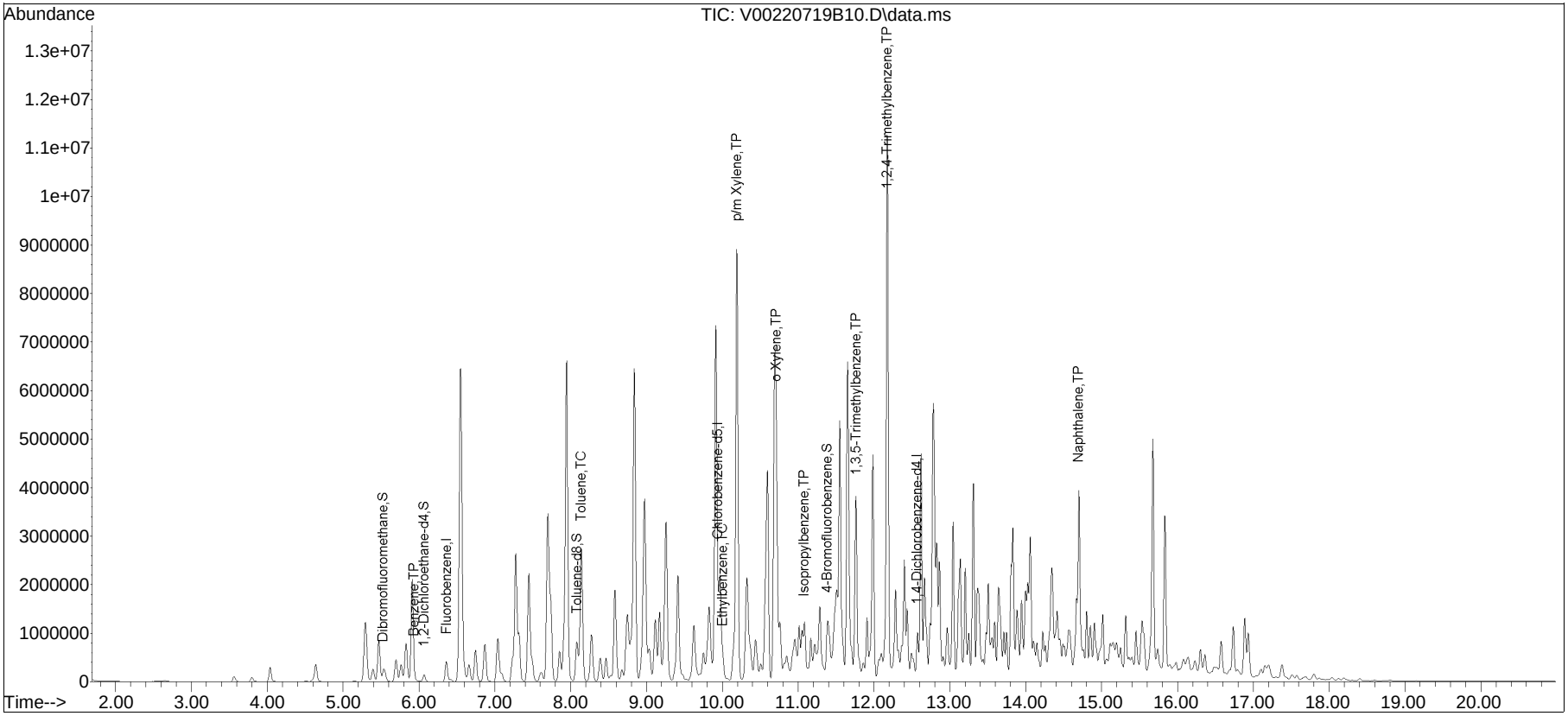


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA100\2022\220719B\
Data File : V00220719B10.D
Acq On : 19 Jul 2022 5:58 pm
Operator : VOA100:JC
Sample : l2237705-19,31h,4.02,5,0.100,,a,r2f
Misc : WG1665199,ICAL19178
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 20 06:13:57 2022
Quant Method : I:\VOLATILES\VOA100\2022\220719B\V100_220714N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Jul 15 08:34:11 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list19B\V00220719B01.D•



ANALYTICAL REPORT

Lab Number:	L2237706
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/22/22

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Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237706
Report Date: 07/22/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2237706-01	PB-883-01-SS01	SOIL	PHILADELPHIA, PA	07/14/22 09:00	07/14/22
L2237706-02	PB-883-02-SS01	SOIL	PHILADELPHIA, PA	07/14/22 09:10	07/14/22
L2237706-03	PB-883-03-SS01	SOIL	PHILADELPHIA, PA	07/14/22 09:20	07/14/22
L2237706-04	PB-883-04-SS01	SOIL	PHILADELPHIA, PA	07/14/22 09:30	07/14/22
L2237706-05	PB-883-05-SS01	SOIL	PHILADELPHIA, PA	07/14/22 09:40	07/14/22
L2237706-06	PB-883-06-SS01	SOIL	PHILADELPHIA, PA	07/14/22 09:50	07/14/22
L2237706-07	PB-883-07-SS01	SOIL	PHILADELPHIA, PA	07/14/22 10:00	07/14/22
L2237706-08	PB-883-15-SS01	SOIL	PHILADELPHIA, PA	07/14/22 10:10	07/14/22
L2237706-09	PB-883-20-SS01	SOIL	PHILADELPHIA, PA	07/14/22 10:20	07/14/22
L2237706-10	PB-883-21-SS01	SOIL	PHILADELPHIA, PA	07/14/22 10:30	07/14/22
L2237706-11	PB-885-04-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:00	07/14/22
L2237706-12	PB-885-05-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:10	07/14/22
L2237706-13	PB-885-12-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:20	07/14/22
L2237706-14	PB-885-13-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:30	07/14/22
L2237706-15	PB-885-14-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:40	07/14/22
L2237706-16	PB-885-15-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:50	07/14/22
L2237706-17	PB-885-20-SS01	SOIL	PHILADELPHIA, PA	07/14/22 12:00	07/14/22
L2237706-18	PB-885-25-SS01	SOIL	PHILADELPHIA, PA	07/14/22 12:10	07/14/22
L2237706-19	FB-071422-1	WATER	PHILADELPHIA, PA	07/14/22 14:00	07/14/22
L2237706-20	FB-071422-2	WATER	PHILADELPHIA, PA	07/14/22 14:10	07/14/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237706
Project Number:	200.00135.006	**Report Date:**	07/22/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237706
Project Number:	200.00135.006	**Report Date:**	07/22/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Semivolatile Organics by SIM

The WG1663477-1 Method Blank, associated with L2237706-19 and -20, has a concentration above the reporting limit for Benzo(b)fluoranthene. Since the associated sample concentrations are either greater than 10x the blank concentration or non-detect to the RL for this target analyte, no corrective action is required. Any results detected below the reporting limit are qualified with a "B".

Total Metals

L2237706-01: The sample has an elevated detection limit due to the dilution required by matrix interferences encountered during analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 07/22/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-01
Client ID: PB-883-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 22:09
Analyst: JC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00032	J	mg/kg	0.0021	0.00021	1
Benzene	0.00026	J	mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00057	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00031	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00059	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.00018	J	mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-02
Client ID: PB-883-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 17:05
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0018	J	mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-03
Client ID: PB-883-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:20
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 23:03
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0020		mg/kg	0.0016	0.00016	1
Benzene	0.00041		mg/kg	0.00041	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00082	0.00021	1
Toluene	ND		mg/kg	0.00082	0.00045	1
1,2-Dibromoethane	ND		mg/kg	0.00041	0.00024	1
Ethylbenzene	ND		mg/kg	0.00082	0.00012	1
p/m-Xylene	ND		mg/kg	0.0016	0.00046	1
o-Xylene	ND		mg/kg	0.00082	0.00024	1
Xylenes, Total	ND		mg/kg	0.00082	0.00024	1
Isopropylbenzene	ND		mg/kg	0.00082	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0016	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0016	0.00028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-04
Client ID: PB-883-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 23:30
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00098	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00028	1
Xylenes, Total	ND		mg/kg	0.00098	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-05
Client ID: PB-883-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:40
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 23:57
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0042		mg/kg	0.0018	0.00018	1
Benzene	0.00030	J	mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00091	0.00023	1
Toluene	ND		mg/kg	0.00091	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00091	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00091	0.00026	1
Xylenes, Total	ND		mg/kg	0.00091	0.00026	1
Isopropylbenzene	0.00020	J	mg/kg	0.00091	0.00009	1
1,3,5-Trimethylbenzene	0.00084	J	mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	0.00034	J	mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	76		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-06
Client ID: PB-883-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:50
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 00:23
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00048	J	mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00053	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00059	1
o-Xylene	ND		mg/kg	0.0010	0.00031	1
Xylenes, Total	ND		mg/kg	0.0010	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	125		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-07
Client ID: PB-883-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 00:49
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0016	J	mg/kg	0.0023	0.00023	1
Benzene	0.00026	J	mg/kg	0.00056	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00061	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00063	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	0.00021	J	mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.00025	J	mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	0.00041	J	mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-08
Client ID: PB-883-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 01:15
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0018	J	mg/kg	0.0019	0.00019	1
Benzene	0.00025	J	mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00095	0.00024	1
Toluene	ND		mg/kg	0.00095	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00095	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00053	1
o-Xylene	0.00030	J	mg/kg	0.00095	0.00028	1
Xylenes, Total	0.00030	J	mg/kg	0.00095	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00095	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-09
Client ID: PB-883-20-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 10:20
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 01:42
Analyst: JC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0051		mg/kg	0.0019	0.00019	1
Benzene	0.00045	J	mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00097	0.00025	1
Toluene	ND		mg/kg	0.00097	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00097	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00097	0.00028	1
Xylenes, Total	ND		mg/kg	0.00097	0.00028	1
Isopropylbenzene	0.00029	J	mg/kg	0.00097	0.00010	1
1,3,5-Trimethylbenzene	0.00048	J	mg/kg	0.0019	0.00019	1
1,2,4-Trimethylbenzene	0.00089	J	mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	81		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-10
Client ID: PB-883-21-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 02:09
Analyst: JC
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00091	0.00024	1
Toluene	ND		mg/kg	0.00091	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	0.00034	J	mg/kg	0.00091	0.00013	1
p/m-Xylene	0.0010	J	mg/kg	0.0018	0.00051	1
o-Xylene	0.0013		mg/kg	0.00091	0.00027	1
Xylenes, Total	0.0023	J	mg/kg	0.00091	0.00027	1
Isopropylbenzene	0.00042	J	mg/kg	0.00091	0.00010	1
1,3,5-Trimethylbenzene	0.0032		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	0.0097		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-11
Client ID: PB-885-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 02:35
Analyst: JC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00091	0.00023	1
Toluene	ND		mg/kg	0.00091	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00091	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00091	0.00026	1
Xylenes, Total	ND		mg/kg	0.00091	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00091	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-12
Client ID: PB-885-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 03:02
Analyst: JC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00047	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00095	0.00024	1
Toluene	ND		mg/kg	0.00095	0.00051	1
1,2-Dibromoethane	ND		mg/kg	0.00047	0.00028	1
Ethylbenzene	ND		mg/kg	0.00095	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00053	1
o-Xylene	ND		mg/kg	0.00095	0.00028	1
Xylenes, Total	ND		mg/kg	0.00095	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00095	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-13
Client ID: PB-885-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:20
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 03:29
Analyst: JC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00087	0.00022	1
Toluene	ND		mg/kg	0.00087	0.00047	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	ND		mg/kg	0.00087	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00048	1
o-Xylene	ND		mg/kg	0.00087	0.00025	1
Xylenes, Total	ND		mg/kg	0.00087	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00087	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	107		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-14
Client ID: PB-885-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 03:56
Analyst: JC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00095	0.00024	1
Toluene	ND		mg/kg	0.00095	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00095	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00053	1
o-Xylene	ND		mg/kg	0.00095	0.00028	1
Xylenes, Total	ND		mg/kg	0.00095	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00095	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	75		70-130
Dibromofluoromethane	107		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-15
Client ID: PB-885-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:40
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 17:31
Analyst: JC
Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00042	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00084	0.00022	1
Toluene	ND		mg/kg	0.00084	0.00046	1
1,2-Dibromoethane	ND		mg/kg	0.00042	0.00025	1
Ethylbenzene	ND		mg/kg	0.00084	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00047	1
o-Xylene	ND		mg/kg	0.00084	0.00024	1
Xylenes, Total	ND		mg/kg	0.00084	0.00024	1
Isopropylbenzene	ND		mg/kg	0.00084	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-16
Client ID: PB-885-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:50
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 04:49
Analyst: JC
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	ND		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00090	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00090	0.00026	1
Xylenes, Total	ND		mg/kg	0.00090	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	71		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-17
Client ID: PB-885-20-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 05:16
Analyst: JC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00099	0.00025	1
Toluene	ND		mg/kg	0.00099	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00099	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00099	0.00029	1
Xylenes, Total	ND		mg/kg	0.00099	0.00029	1
Isopropylbenzene	ND		mg/kg	0.00099	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-18
Client ID: PB-885-25-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 05:43
Analyst: JC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00042	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00085	0.00022	1
Toluene	ND		mg/kg	0.00085	0.00046	1
1,2-Dibromoethane	ND		mg/kg	0.00042	0.00025	1
Ethylbenzene	ND		mg/kg	0.00085	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00048	1
o-Xylene	ND		mg/kg	0.00085	0.00025	1
Xylenes, Total	ND		mg/kg	0.00085	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00085	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	77		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-19
Client ID: FB-071422-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 14:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 18:23
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-19
Client ID: FB-071422-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 14:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/17/22 15:21
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**136**	Q	70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	117		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-20
Client ID: FB-071422-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 14:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 18:30
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-20
Client ID: FB-071422-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 14:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/17/22 15:43
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	129		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	120		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/15/22 16:10
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 19-20 Batch: WG1663450-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/17/22 13:55
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 19-20 Batch: WG1664113-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	127		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	117		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/18/22 21:42
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,03-14,16-18 Batch: WG1664672-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/19/22 16:38
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02,15 Batch: WG1665197-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	99		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237706

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 19-20 Batch: WG1663450-2								
1,2-Dibromoethane	97		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237706

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 19-20 Batch: WG1664113-3 WG1664113-4								
Methyl tert butyl ether	90		86		63-130	5		20
Benzene	86		82		70-130	5		20
1,2-Dichloroethane	100		96		70-130	4		20
Toluene	83		84		70-130	1		20
Ethylbenzene	90		91		70-130	1		20
p/m-Xylene	90		90		70-130	0		20
o-Xylene	90		90		70-130	0		20
Isopropylbenzene	86		87		70-130	1		20
1,3,5-Trimethylbenzene	90		92		64-130	2		20
1,2,4-Trimethylbenzene	89		88		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	117		116		70-130
Toluene-d8	98		97		70-130
4-Bromofluorobenzene	98		99		70-130
Dibromofluoromethane	109		111		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237706
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,03-14,16-18 Batch: WG1664672-3 WG1664672-4								
Methyl tert butyl ether	90		90		66-130	0		30
Benzene	90		90		70-130	0		30
1,2-Dichloroethane	90		90		70-130	0		30
Toluene	90		92		70-130	2		30
1,2-Dibromoethane	96		98		70-130	2		30
Ethylbenzene	89		90		70-130	1		30
p/m-Xylene	94		96		70-130	2		30
o-Xylene	93		94		70-130	1		30
Isopropylbenzene	72		87		70-130	19		30
1,3,5-Trimethylbenzene	85		87		70-130	2		30
1,2,4-Trimethylbenzene	83		86		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		100		70-130
Toluene-d8	98		102		70-130
4-Bromofluorobenzene	83		84		70-130
Dibromofluoromethane	106		105		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237706

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02,15 Batch: WG1665197-3 WG1665197-4								
Methyl tert butyl ether	81		84		66-130	4		30
Benzene	77		80		70-130	4		30
1,2-Dichloroethane	75		78		70-130	4		30
Toluene	71		73		70-130	3		30
1,2-Dibromoethane	79		82		70-130	4		30
Ethylbenzene	72		76		70-130	5		30
p/m-Xylene	73		76		70-130	4		30
o-Xylene	77		80		70-130	4		30
Isopropylbenzene	74		75		70-130	1		30
1,3,5-Trimethylbenzene	74		77		70-130	4		30
1,2,4-Trimethylbenzene	74		77		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		97		70-130
Toluene-d8	96		96		70-130
4-Bromofluorobenzene	98		97		70-130
Dibromofluoromethane	102		101		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-01
Client ID: PB-883-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 16:36
Analyst: EK
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	88		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-02
Client ID: PB-883-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 17:01
Analyst: EK
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	96		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-03
Client ID: PB-883-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:20
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 17:25
Analyst: EK
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	74		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-04
Client ID: PB-883-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/21/22 17:18
Analyst: JG
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/21/22 10:07

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	80		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-05
Client ID: PB-883-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:40
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 18:13
Analyst: EK
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.037	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	82		30-120
4-Terphenyl-d14	91		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-06
Client ID: PB-883-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:50
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 18:37
Analyst: EK
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	99		23-120
2-Fluorobiphenyl	95		30-120
4-Terphenyl-d14	96		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-07
Client ID: PB-883-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 19:01
Analyst: EK
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-08
Client ID: PB-883-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 19:25
Analyst: EK
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-09
Client ID: PB-883-20-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:20
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 19:49
Analyst: EK
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	62		23-120
2-Fluorobiphenyl	63		30-120
4-Terphenyl-d14	69		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-10
Client ID: PB-883-21-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 20:13
Analyst: EK
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	3.0		mg/kg	0.18	0.022	1
Fluorene	1.2		mg/kg	0.18	0.018	1
Phenanthrene	3.7		mg/kg	0.11	0.022	1
Anthracene	0.74		mg/kg	0.11	0.036	1
Pyrene	0.23		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	81		30-120
4-Terphenyl-d14	94		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-11
Client ID: PB-885-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 20:37
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.016	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	89		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-12
Client ID: PB-885-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 21:01
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-13
Client ID: PB-885-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:20
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 21:25
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.016	1
Phenanthrene	ND		mg/kg	0.10	0.020	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.041	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	79		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-14
Client ID: PB-885-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 21:49
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	63		23-120
2-Fluorobiphenyl	56		30-120
4-Terphenyl-d14	67		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-15
Client ID: PB-885-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:40
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 22:13
Analyst: EK
Percent Solids: 97%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	63		30-120
4-Terphenyl-d14	75		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-16
Client ID: PB-885-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:50
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 22:37
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	88		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-17
Client ID: PB-885-20-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 23:01
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.016	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	92		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-18
Client ID: PB-885-25-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 23:25
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	90		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-19
Client ID: FB-071422-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 14:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/17/22 18:40
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/15/22 15:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	41		23-120
2-Fluorobiphenyl	44		15-120
4-Terphenyl-d14	46		41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-20
Client ID: FB-071422-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 14:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/17/22 18:56
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/15/22 15:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	44		23-120
2-Fluorobiphenyl	46		15-120
4-Terphenyl-d14	47		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/20/22 16:29
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/15/22 15:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 19-20 Batch: WG1663477-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	0.03	J	ug/l	0.10	0.02
Benzo(a)anthracene	0.05	J	ug/l	0.05	0.02
Chrysene	0.04	J	ug/l	0.10	0.01
Benzo(b)fluoranthene	0.07		ug/l	0.05	0.01
Benzo(a)pyrene	0.04	J	ug/l	0.10	0.02
Benzo(ghi)perylene	0.05	J	ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	33		23-120
2-Fluorobiphenyl	34		15-120
4-Terphenyl-d14	**32**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/16/22 14:36
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,05-18 Batch: WG1663537-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.027
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	95		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/21/22 09:47
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 07/20/22 17:31

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 04 Batch: WG1665398-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.099	0.020
Anthracene	ND		mg/kg	0.099	0.032
Pyrene	ND		mg/kg	0.099	0.016
Benzo(a)anthracene	ND		mg/kg	0.099	0.018
Chrysene	ND		mg/kg	0.099	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.099	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	41		25-120
Phenol-d6	42		10-120
Nitrobenzene-d5	43		23-120
2-Fluorobiphenyl	42		30-120
2,4,6-Tribromophenol	43		10-136
4-Terphenyl-d14	43		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237706
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 19-20 Batch: WG1663477-2 WG1663477-3								
Naphthalene	69		78		40-140	12		40
Fluorene	70		83		40-140	17		40
Phenanthrene	68		81		40-140	17		40
Anthracene	68		82		40-140	19		40
Pyrene	74		96		26-127	26		40
Benzo(a)anthracene	66		90		40-140	31		40
Chrysene	71		101		40-140	35		40
Benzo(b)fluoranthene	68		90		40-140	28		40
Benzo(a)pyrene	67		90		40-140	29		40
Benzo(ghi)perylene	76		99		40-140	26		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	38		42		23-120
2-Fluorobiphenyl	39		43		15-120
4-Terphenyl-d14	**40**	Q	46		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237706

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05-18 Batch: WG1663537-2 WG1663537-3								
Naphthalene	70		70		40-140	0		50
Fluorene	76		73		40-140	4		50
Phenanthrene	75		73		40-140	3		50
Anthracene	78		75		40-140	4		50
Pyrene	79		75		35-142	5		50
Benzo(a)anthracene	82		80		40-140	2		50
Chrysene	81		79		40-140	3		50
Benzo(b)fluoranthene	87		84		40-140	4		50
Benzo(a)pyrene	91		87		40-140	4		50
Benzo(ghi)perylene	81		78		40-140	4		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	78		82		23-120
2-Fluorobiphenyl	76		74		30-120
4-Terphenyl-d14	88		82		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237706

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04 Batch: WG1665398-2 WG1665398-3								
Naphthalene	65		72		40-140	10		50
Fluorene	78		80		40-140	3		50
Phenanthrene	78		78		40-140	0		50
Anthracene	79		80		40-140	1		50
Pyrene	75		76		35-142	1		50
Benzo(a)anthracene	81		79		40-140	3		50
Chrysene	83		82		40-140	1		50
Benzo(b)fluoranthene	76		75		40-140	1		50
Benzo(a)pyrene	83		80		40-140	4		50
Benzo(ghi)perylene	72		74		40-140	3		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	32		36		25-120
Phenol-d6	35		39		10-120
Nitrobenzene-d5	35		38		23-120
2-Fluorobiphenyl	38		38		30-120
2,4,6-Tribromophenol	38		40		10-136
4-Terphenyl-d14	39		39		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-01
Client ID: PB-883-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.61	J	mg/kg	11.4	0.610	5	07/15/22 16:15	07/20/22 11:35	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-02
Client ID: PB-883-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.88		mg/kg	2.35	0.126	1	07/15/22 16:15	07/19/22 21:45	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-03
Client ID: PB-883-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:20
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.82		mg/kg	4.41	0.236	2	07/15/22 16:15	07/20/22 11:24	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-04
Client ID: PB-883-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.16		mg/kg	4.50	0.241	2	07/15/22 16:15	07/20/22 12:10	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-05
Client ID: PB-883-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:40
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.72		mg/kg	2.24	0.120	1	07/15/22 16:15	07/19/22 22:31	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-06
Client ID: PB-883-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:50
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.14		mg/kg	2.28	0.122	1	07/15/22 16:15	07/19/22 22:36	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-07
Client ID: PB-883-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 10:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	13.9		mg/kg	2.29	0.123	1	07/15/22 16:15	07/19/22 22:41	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-08
Client ID: PB-883-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 10:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	8.06		mg/kg	2.27	0.122	1	07/15/22 16:15	07/19/22 22:45	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-09
Client ID: PB-883-20-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 10:20
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.73		mg/kg	2.28	0.122	1	07/15/22 16:15	07/19/22 22:50	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-10
Client ID: PB-883-21-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 10:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	12.6		mg/kg	10.6	0.567	5	07/15/22 16:15	07/20/22 12:15	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-11
Client ID: PB-885-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.56	J	mg/kg	2.00	0.107	1	07/15/22 16:15	07/19/22 22:59	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-12
Client ID: PB-885-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.39	J	mg/kg	1.97	0.106	1	07/15/22 16:15	07/19/22 23:04	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-13
Client ID: PB-885-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:20
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.33	J	mg/kg	1.97	0.106	1	07/15/22 16:15	07/19/22 23:08	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-14
Client ID: PB-885-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.72	J	mg/kg	1.99	0.107	1	07/15/22 16:15	07/19/22 23:13	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-15
Client ID: PB-885-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:40
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.45	J	mg/kg	1.95	0.105	1	07/15/22 16:15	07/19/22 23:36	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-16
Client ID: PB-885-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:50
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.48	J	mg/kg	1.98	0.106	1	07/15/22 16:15	07/19/22 23:40	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-17
Client ID: PB-885-20-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 12:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.63	J	mg/kg	1.97	0.105	1	07/15/22 16:15	07/19/22 23:45	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-18
Client ID: PB-885-25-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 12:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.50	J	mg/kg	1.97	0.106	1	07/15/22 16:15	07/20/22 00:26	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-19
Client ID: FB-071422-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 14:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/15/22 14:25	07/18/22 21:12	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-20
Client ID: FB-071422-2
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 14:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/15/22 14:25	07/18/22 21:18	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-18 Batch: WG1663362-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/15/22 16:15	07/19/22 21:36	1,6010D	DL

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 19-20 Batch: WG1663390-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/15/22 14:25	07/18/22 18:50	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237706

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-18 Batch: WG1663362-2 SRM Lot Number: D113-540								
Lead, Total	86		-		72-128	-		
Total Metals - Mansfield Lab Associated sample(s): 19-20 Batch: WG1663390-2								
Lead, Total	102		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237706
Report Date: 07/22/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-18 QC Batch ID: WG1663362-3 QC Sample: L2237706-01 Client ID: PB-883-01-SS01												
Lead, Total	7.61J	48	48.2	100		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 19-20 QC Batch ID: WG1663390-3 WG1663390-4 QC Sample: L2237672-03 Client ID: MS Sample												
Lead, Total	0.9553J	530	569.8	108		561.0	106		75-125	2		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237706

Report Date: 07/22/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-18 QC Batch ID: WG1663362-4 QC Sample: L2237706-01 Client ID: PB-883-01-SS01						
Lead, Total	7.61J	8.10J	mg/kg	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-01
Client ID: PB-883-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 09:00
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.2		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-02
Client ID: PB-883-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 09:10
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.7		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-03
Client ID: PB-883-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 09:20
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.7		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-04
Client ID: PB-883-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 09:30
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.5		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-05
Client ID: PB-883-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 09:40
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.7		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-06
Client ID: PB-883-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 09:50
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.5		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-07
Client ID: PB-883-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 10:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.1		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-08
Client ID: PB-883-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 10:10
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.9		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-09
Client ID: PB-883-20-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 10:20
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.6		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-10
Client ID: PB-883-21-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 10:30
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.6		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-11
Client ID: PB-885-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 11:00
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.5		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-12
Client ID: PB-885-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 11:10
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.8		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-13
Client ID: PB-885-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 11:20
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.0		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-14
Client ID: PB-885-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 11:30
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.6		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-15
Client ID: PB-885-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 11:40
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.5		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-16
Client ID: PB-885-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 11:50
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.8		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-17
Client ID: PB-885-20-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 12:00
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.3		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-18
Client ID: PB-885-25-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 12:10
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.4		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237706

Report Date: 07/22/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-18 QC Batch ID: WG1663374-1 QC Sample: L2237706-01 Client ID: PB-883-01-SS01						
Solids, Total	83.2	83.8	%	1		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237706
Report Date: 07/22/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent
D	Absent
E	Absent
F	Absent
G	Absent
H	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237706-01A	Vial MeOH preserved	B	NA		4.7	Y	Absent		PA-8260HLW(14)
L2237706-01B	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-01C	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-01D	Plastic 120ml unpreserved	B	NA		4.7	Y	Absent		TS(7)
L2237706-01E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.7	Y	Absent		PB-TI(180)
L2237706-01F	Glass 120ml/4oz unpreserved	B	NA		4.7	Y	Absent		PA-PAH(14)
L2237706-02A	Vial MeOH preserved	B	NA		4.7	Y	Absent		PA-8260HLW(14)
L2237706-02B	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-02C	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-02D	Plastic 120ml unpreserved	B	NA		4.7	Y	Absent		TS(7)
L2237706-02E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.7	Y	Absent		PB-TI(180)
L2237706-02F	Glass 120ml/4oz unpreserved	B	NA		4.7	Y	Absent		PA-PAH(14)
L2237706-03A	Vial MeOH preserved	B	NA		4.7	Y	Absent		PA-8260HLW(14)
L2237706-03B	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-03C	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237706-03D	Plastic 120ml unpreserved	B	NA		4.7	Y	Absent		TS(7)
L2237706-03E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.7	Y	Absent		PB-TI(180)
L2237706-03F	Glass 120ml/4oz unpreserved	B	NA		4.7	Y	Absent		PA-PAH(14)
L2237706-04A	Vial MeOH preserved	B	NA		4.7	Y	Absent		PA-8260HLW(14)
L2237706-04B	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-04C	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-04D	Plastic 120ml unpreserved	B	NA		4.7	Y	Absent		TS(7)
L2237706-04E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.7	Y	Absent		PB-TI(180)
L2237706-04F	Glass 120ml/4oz unpreserved	B	NA		4.7	Y	Absent		PA-PAH(14)
L2237706-05A	Vial MeOH preserved	B	NA		4.7	Y	Absent		PA-8260HLW(14)
L2237706-05B	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-05C	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-05D	Plastic 120ml unpreserved	B	NA		4.7	Y	Absent		TS(7)
L2237706-05E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.7	Y	Absent		PB-TI(180)
L2237706-05F	Glass 120ml/4oz unpreserved	B	NA		4.7	Y	Absent		PA-PAH(14)
L2237706-06A	Vial MeOH preserved	G	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237706-06B	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-06C	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-06D	Plastic 120ml unpreserved	G	NA		4.0	Y	Absent		TS(7)
L2237706-06E	Metals Only-Glass 60mL/2oz unpreserved	G	NA		4.0	Y	Absent		PB-TI(180)
L2237706-06F	Glass 120ml/4oz unpreserved	G	NA		4.0	Y	Absent		PA-PAH(14)
L2237706-07A	Vial MeOH preserved	B	NA		4.7	Y	Absent		PA-8260HLW(14)
L2237706-07B	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-07C	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-07D	Plastic 120ml unpreserved	B	NA		4.7	Y	Absent		TS(7)
L2237706-07E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.7	Y	Absent		PB-TI(180)
L2237706-07F	Glass 120ml/4oz unpreserved	B	NA		4.7	Y	Absent		PA-PAH(14)
L2237706-08A	Vial MeOH preserved	G	NA		4.0	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237706
Report Date: 07/22/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237706-08B	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-08C	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-08D	Plastic 120ml unpreserved	G	NA		4.0	Y	Absent		TS(7)
L2237706-08E	Metals Only-Glass 60mL/2oz unpreserved	G	NA		4.0	Y	Absent		PB-TI(180)
L2237706-08F	Glass 120ml/4oz unpreserved	G	NA		4.0	Y	Absent		PA-PAH(14)
L2237706-09A	Vial MeOH preserved	G	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237706-09B	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-09C	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-09D	Plastic 120ml unpreserved	G	NA		4.0	Y	Absent		TS(7)
L2237706-09E	Metals Only-Glass 60mL/2oz unpreserved	G	NA		4.0	Y	Absent		PB-TI(180)
L2237706-09F	Glass 120ml/4oz unpreserved	G	NA		4.0	Y	Absent		PA-PAH(14)
L2237706-10A	Vial MeOH preserved	G	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237706-10B	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-10C	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-10D	Plastic 120ml unpreserved	G	NA		4.0	Y	Absent		TS(7)
L2237706-10E	Metals Only-Glass 60mL/2oz unpreserved	G	NA		4.0	Y	Absent		PB-TI(180)
L2237706-10F	Glass 120ml/4oz unpreserved	G	NA		4.0	Y	Absent		PA-PAH(14)
L2237706-11A	Vial MeOH preserved	G	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237706-11B	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-11C	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-11D	Plastic 120ml unpreserved	G	NA		4.0	Y	Absent		TS(7)
L2237706-11E	Metals Only-Glass 60mL/2oz unpreserved	G	NA		4.0	Y	Absent		PB-TI(180)
L2237706-11F	Glass 120ml/4oz unpreserved	G	NA		4.0	Y	Absent		PA-PAH(14)
L2237706-12A	Vial water preserved	H	NA		2.4	Y	Absent		PA-8260HLW(14)
L2237706-12B	Vial MeOH preserved	H	NA		2.4	Y	Absent		PA-8260HLW(14)
L2237706-12C	Vial water preserved	H	NA		2.4	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-12D	Plastic 120ml unpreserved	H	NA		2.4	Y	Absent		TS(7)
L2237706-12E	Metals Only-Glass 60mL/2oz unpreserved	H	NA		2.4	Y	Absent		PB-TI(180)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237706
Report Date: 07/22/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237706-12F	Glass 120ml/4oz unpreserved	H	NA		2.4	Y	Absent		PA-PAH(14)
L2237706-13A	Vial MeOH preserved	G	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237706-13B	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-13C	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-13D	Plastic 120ml unpreserved	G	NA		4.0	Y	Absent		TS(7)
L2237706-13E	Metals Only-Glass 60mL/2oz unpreserved	G	NA		4.0	Y	Absent		PB-TI(180)
L2237706-13F	Glass 120ml/4oz unpreserved	G	NA		4.0	Y	Absent		PA-PAH(14)
L2237706-14A	Vial MeOH preserved	G	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237706-14B	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-14C	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-14D	Plastic 120ml unpreserved	G	NA		4.0	Y	Absent		TS(7)
L2237706-14E	Metals Only-Glass 60mL/2oz unpreserved	G	NA		4.0	Y	Absent		PB-TI(180)
L2237706-14F	Glass 120ml/4oz unpreserved	G	NA		4.0	Y	Absent		PA-PAH(14)
L2237706-15A	Vial MeOH preserved	D	NA		5.1	Y	Absent		PA-8260HLW(14)
L2237706-15B	Vial water preserved	D	NA		5.1	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-15C	Vial water preserved	D	NA		5.1	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-15D	Plastic 120ml unpreserved	D	NA		5.1	Y	Absent		TS(7)
L2237706-15E	Metals Only-Glass 60mL/2oz unpreserved	D	NA		5.1	Y	Absent		PB-TI(180)
L2237706-15F	Glass 120ml/4oz unpreserved	D	NA		5.1	Y	Absent		PA-PAH(14)
L2237706-16A	Vial MeOH preserved	H	NA		2.4	Y	Absent		PA-8260HLW(14)
L2237706-16B	Vial water preserved	H	NA		2.4	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-16C	Vial water preserved	H	NA		2.4	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-16D	Plastic 120ml unpreserved	H	NA		2.4	Y	Absent		TS(7)
L2237706-16E	Metals Only-Glass 60mL/2oz unpreserved	H	NA		2.4	Y	Absent		PB-TI(180)
L2237706-16F	Glass 120ml/4oz unpreserved	H	NA		2.4	Y	Absent		PA-PAH(14)
L2237706-17A	Vial MeOH preserved	H	NA		2.4	Y	Absent		PA-8260HLW(14)
L2237706-17B	Vial water preserved	H	NA		2.4	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-17C	Vial water preserved	H	NA		2.4	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237706
Report Date: 07/22/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237706-17D	Plastic 120ml unpreserved	H	NA		2.4	Y	Absent		TS(7)
L2237706-17E	Metals Only-Glass 60mL/2oz unpreserved	H	NA		2.4	Y	Absent		PB-TI(180)
L2237706-17F	Glass 120ml/4oz unpreserved	H	NA		2.4	Y	Absent		PA-PAH(14)
L2237706-18A	Vial MeOH preserved	H	NA		2.4	Y	Absent		PA-8260HLW(14)
L2237706-18B	Vial water preserved	H	NA		2.4	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-18C	Vial water preserved	H	NA		2.4	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-18D	Plastic 120ml unpreserved	H	NA		2.4	Y	Absent		TS(7)
L2237706-18E	Metals Only-Glass 60mL/2oz unpreserved	H	NA		2.4	Y	Absent		PB-TI(180)
L2237706-18F	Glass 120ml/4oz unpreserved	H	NA		2.4	Y	Absent		PA-PAH(14)
L2237706-19A	Vial HCl preserved	D	NA		5.1	Y	Absent		PA-8260(14)
L2237706-19B	Vial HCl preserved	D	NA		5.1	Y	Absent		PA-8260(14)
L2237706-19C	Vial HCl preserved	D	NA		5.1	Y	Absent		PA-8260(14)
L2237706-19D	Vial HCl preserved	D	NA		5.1	Y	Absent		8011(14)
L2237706-19E	Vial HCl preserved	D	NA		5.1	Y	Absent		8011(14)
L2237706-19F	Plastic 250ml HNO3 preserved	D	<2	<2	5.1	Y	Absent		PB-6020T-PPB(180)
L2237706-19G	Amber 250ml unpreserved	D	7	7	5.1	Y	Absent		PA-PAHSIM-LVI(7)
L2237706-19H	Amber 250ml unpreserved	D	7	7	5.1	Y	Absent		PA-PAHSIM-LVI(7)
L2237706-20A	Vial HCl preserved	D	NA		5.1	Y	Absent		PA-8260(14)
L2237706-20B	Vial HCl preserved	D	NA		5.1	Y	Absent		PA-8260(14)
L2237706-20C	Vial HCl preserved	D	NA		5.1	Y	Absent		PA-8260(14)
L2237706-20D	Vial HCl preserved	D	NA		5.1	Y	Absent		8011(14)
L2237706-20E	Vial HCl preserved	D	NA		5.1	Y	Absent		8011(14)
L2237706-20F	Plastic 250ml HNO3 preserved	D	<2	<2	5.1	Y	Absent		PB-6020T-PPB(180)
L2237706-20G	Amber 250ml unpreserved	D	7	7	5.1	Y	Absent		PA-PAHSIM-LVI(7)
L2237706-20H	Amber 250ml unpreserved	D	7	7	5.1	Y	Absent		PA-PAHSIM-LVI(7)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237706
Project Number:	200.00135.006	**Report Date:**	07/22/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237706
Project Number:	200.00135.006	**Report Date:**	07/22/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237706
Project Number:	200.00135.006	**Report Date:**	07/22/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237706
Project Number:	200.00135.006	**Report Date:**	07/22/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/15/22

ALPHA Job #: L2237706

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
37706-01	PB-SS3-01-5501	7/14/22	900	S	CA	
02	PB-SS3-02-5501		910			
03	PB-SS3-03-5501		920			
04	PB-SS3-04-5501		930			
05	PB-SS3-05-5501		940			
06	PB-SS3-06-5501		950			
07	PB-SS3-07-5501		1000			
08	PB-SS3-15-5501		1010			
09	PB-SS3-20-5501		1020			
10	PB-SS3-21-5501	↓	1030	N/A	↓	

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/14/22	[signature]	7/14/22 1550
[signature]	7/14/22 1680	[signature]	7/14/22 1600
[signature]	7/14/22 2100	[signature]	7/14/22 2100
GLMAL	7/15/22 0120	GLMAL	7/14/22 2351

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(HALL) (rev. 5-JAN-11)

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/15/22

ALPHA Job #: L2237706

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short List 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
37706-11	PB-SS5-04-5501	7/14/22	1100	S		
12	PB-SS5-05-5501		1110			
13	PB-SS5-12-5501		1120			
14	PB-SS5-13-5501		1130			
15	PB-SS5-14-5501		1140			
16	PB-SS5-15-5501		1150			
17	PB-SS5-20-5501		1200			
18	PB-SS5-25-5501		1210			
19	FB-071422-1		1400	W		
20	FB-071422-2		1410			

Container Type: - - G - - - - - - - - -
Preservative: - - - - - - - - - - - -

Relinquished By:	Date/Time	Received By:	Date/Time
	7/14/22		7/14/22 1550
	7/14/22 1810		
	7/14-2100		7/14/22 2100
7/15/22		7/14/22 2350	

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(LO) (rev. 5-JAN-12)

PADEP Short List Analytical Suites per Table III-5:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

ANALYTICAL REPORT

Lab Number:	L2238021
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/22/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2238021-01	PB-884-24-SS01	SOIL	PHILADELPHIA, PA	07/15/22 08:15	07/15/22
L2238021-02	PB-884-25-SS01	SOIL	PHILADELPHIA, PA	07/15/22 08:30	07/15/22
L2238021-03	PB-886-06-SS01	SOIL	PHILADELPHIA, PA	07/15/22 09:00	07/15/22
L2238021-04	PB-886-07-SS01	SOIL	PHILADELPHIA, PA	07/15/22 09:15	07/15/22
L2238021-05	PB-886-10-SS01	SOIL	PHILADELPHIA, PA	07/15/22 09:30	07/15/22
L2238021-06	PB-886-13-SS01	SOIL	PHILADELPHIA, PA	07/15/22 09:45	07/15/22
L2238021-07	PB-886-14-SS01	SOIL	PHILADELPHIA, PA	07/15/22 10:00	07/15/22
L2238021-08	PB-886-15-SS01	SOIL	PHILADELPHIA, PA	07/15/22 10:15	07/15/22
L2238021-09	PB-886-19-SS01	SOIL	PHILADELPHIA, PA	07/15/22 10:30	07/15/22
L2238021-10	PB-886-20-SS01	SOIL	PHILADELPHIA, PA	07/15/22 10:45	07/15/22
L2238021-11	PB-191-03-SS01	SOIL	PHILADELPHIA, PA	07/15/22 11:00	07/15/22
L2238021-12	DUP-46	SOIL	PHILADELPHIA, PA	07/15/22 00:00	07/15/22
L2238021-13	FB-07152022-2	WATER	PHILADELPHIA, PA	07/15/22 11:15	07/15/22
L2238021-14	FB-07152022-3	WATER	PHILADELPHIA, PA	07/15/22 11:30	07/15/22
L2238021-15	TB-071522	WATER	PHILADELPHIA, PA	07/15/22 00:00	07/15/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238021
Project Number:	200.00135.006	**Report Date:**	07/22/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238021
Project Number:	200.00135.006	**Report Date:**	07/22/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2238021-02: The surrogate recoveries are outside the acceptance criteria for toluene-d8 (157%) and 4-bromofluorobenzene (166%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2238021-02D: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (135%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2238021-05: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (173%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Total Metals

L2238021-01: The sample has an elevated detection limit for lead due to the dilution required by matrix interferences encountered during analysis.

The WG1664023-3 MS recovery, performed on L2238021-01, is outside the acceptance criteria for lead (38%). A post digestion spike was performed and was within acceptance criteria.

The WG1664023-4 Laboratory Duplicate RPD for lead (21%), performed on L2238021-01, is outside the acceptance criteria. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Caitlin Walukevich

Title: Technical Director/Representative

Date: 07/22/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-01
Client ID: PB-884-24-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 08:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/20/22 11:02
Analyst: JC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0025	0.00025	1
Benzene	0.034		mg/kg	0.00063	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00032	1
Toluene	ND		mg/kg	0.0013	0.00069	1
1,2-Dibromoethane	ND		mg/kg	0.00063	0.00037	1
Ethylbenzene	0.095		mg/kg	0.0013	0.00018	1
p/m-Xylene	0.33		mg/kg	0.0025	0.00071	1
o-Xylene	0.032		mg/kg	0.0013	0.00037	1
Xylenes, Total	0.36		mg/kg	0.0013	0.00037	1
Isopropylbenzene	0.030		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	0.042		mg/kg	0.0025	0.00024	1
1,2,4-Trimethylbenzene	0.13		mg/kg	0.0025	0.00042	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	76		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	76		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-02
Client ID: PB-884-25-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 08:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/20/22 11:29
Analyst: JC
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.11	0.011	1
Benzene	7.1		mg/kg	0.027	0.0090	1
1,2-Dichloroethane	ND		mg/kg	0.054	0.014	1
Toluene	16.	E	mg/kg	0.054	0.030	1
1,2-Dibromoethane	ND		mg/kg	0.027	0.016	1
Ethylbenzene	9.4		mg/kg	0.054	0.0077	1
p/m-Xylene	29.		mg/kg	0.11	0.030	1
o-Xylene	12.		mg/kg	0.054	0.016	1
Xylenes, Total	41.		mg/kg	0.054	0.016	1
Isopropylbenzene	3.0		mg/kg	0.054	0.0059	1
1,3,5-Trimethylbenzene	3.8		mg/kg	0.11	0.010	1
1,2,4-Trimethylbenzene	12.		mg/kg	0.11	0.018	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	74		70-130
Toluene-d8	**157**	Q	70-130
4-Bromofluorobenzene	**166**	Q	70-130
Dibromofluoromethane	70		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-02 D
Client ID: PB-884-25-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 08:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/21/22 18:41
Analyst: AJK
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Toluene	15.		mg/kg	0.11	0.059	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	75		70-130
Toluene-d8	129		70-130
4-Bromofluorobenzene	**135**	Q	70-130
Dibromofluoromethane	71		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-03
Client ID: PB-886-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 16:40
Analyst: AJK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00031	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00060	1
o-Xylene	ND		mg/kg	0.0011	0.00031	1
Xylenes, Total	ND		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-04
Client ID: PB-886-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 17:12
Analyst: AJK
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0047	0.00048	1
Benzene	ND		mg/kg	0.0012	0.00039	1
1,2-Dichloroethane	ND		mg/kg	0.0024	0.00061	1
Toluene	ND		mg/kg	0.0024	0.0013	1
1,2-Dibromoethane	ND		mg/kg	0.0012	0.00070	1
Ethylbenzene	ND		mg/kg	0.0024	0.00033	1
p/m-Xylene	ND		mg/kg	0.0047	0.0013	1
o-Xylene	ND		mg/kg	0.0024	0.00069	1
Xylenes, Total	ND		mg/kg	0.0024	0.00069	1
Isopropylbenzene	ND		mg/kg	0.0024	0.00026	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0047	0.00046	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0047	0.00079	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-05
Client ID: PB-886-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 17:43
Analyst: AJK
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00060	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00065	1
1,2-Dibromoethane	ND		mg/kg	0.00060	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00067	1
o-Xylene	0.00053	J	mg/kg	0.0012	0.00035	1
Xylenes, Total	0.00053	J	mg/kg	0.0012	0.00035	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	0.0014	J	mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	0.00084	J	mg/kg	0.0024	0.00040	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	**173**	Q	70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-06
Client ID: PB-886-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:45
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 18:13
Analyst: AJK
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0043	0.00043	1
Benzene	ND		mg/kg	0.0011	0.00036	1
1,2-Dichloroethane	ND		mg/kg	0.0021	0.00055	1
Toluene	ND		mg/kg	0.0021	0.0012	1
1,2-Dibromoethane	ND		mg/kg	0.0011	0.00063	1
Ethylbenzene	ND		mg/kg	0.0021	0.00030	1
p/m-Xylene	ND		mg/kg	0.0043	0.0012	1
o-Xylene	ND		mg/kg	0.0021	0.00062	1
Xylenes, Total	ND		mg/kg	0.0021	0.00062	1
Isopropylbenzene	ND		mg/kg	0.0021	0.00023	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0043	0.00041	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0043	0.00072	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-07
Client ID: PB-886-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 10:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 18:43
Analyst: AJK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00025	1
Benzene	ND		mg/kg	0.00061	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00066	1
1,2-Dibromoethane	ND		mg/kg	0.00061	0.00036	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00068	1
o-Xylene	ND		mg/kg	0.0012	0.00036	1
Xylenes, Total	ND		mg/kg	0.0012	0.00036	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00024	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00041	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-08
Client ID: PB-886-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 10:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 19:14
Analyst: AJK
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0035	0.00035	1
Benzene	ND		mg/kg	0.00087	0.00029	1
1,2-Dichloroethane	ND		mg/kg	0.0017	0.00045	1
Toluene	ND		mg/kg	0.0017	0.00094	1
1,2-Dibromoethane	ND		mg/kg	0.00087	0.00051	1
Ethylbenzene	ND		mg/kg	0.0017	0.00024	1
p/m-Xylene	ND		mg/kg	0.0035	0.00097	1
o-Xylene	ND		mg/kg	0.0017	0.00051	1
Xylenes, Total	ND		mg/kg	0.0017	0.00051	1
Isopropylbenzene	ND		mg/kg	0.0017	0.00019	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0035	0.00034	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0035	0.00058	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-09
Client ID: PB-886-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 10:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/20/22 00:14
Analyst: JC
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0026	0.00027	1
Benzene	ND		mg/kg	0.00066	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00034	1
Toluene	ND		mg/kg	0.0013	0.00072	1
1,2-Dibromoethane	ND		mg/kg	0.00066	0.00039	1
Ethylbenzene	ND		mg/kg	0.0013	0.00019	1
p/m-Xylene	ND		mg/kg	0.0026	0.00074	1
o-Xylene	ND		mg/kg	0.0013	0.00039	1
Xylenes, Total	ND		mg/kg	0.0013	0.00039	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0026	0.00026	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0026	0.00044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-10
Client ID: PB-886-20-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 10:45
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/20/22 00:43
Analyst: JC
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0025	0.00025	1
Benzene	ND		mg/kg	0.00063	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00032	1
Toluene	ND		mg/kg	0.0012	0.00068	1
1,2-Dibromoethane	ND		mg/kg	0.00063	0.00037	1
Ethylbenzene	ND		mg/kg	0.0012	0.00018	1
p/m-Xylene	ND		mg/kg	0.0025	0.00070	1
o-Xylene	ND		mg/kg	0.0012	0.00037	1
Xylenes, Total	ND		mg/kg	0.0012	0.00037	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0025	0.00024	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0025	0.00042	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-11
Client ID: PB-191-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/20/22 01:11
Analyst: JC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0026	0.00026	1
Benzene	ND		mg/kg	0.00066	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00034	1
Toluene	ND		mg/kg	0.0013	0.00072	1
1,2-Dibromoethane	ND		mg/kg	0.00066	0.00039	1
Ethylbenzene	ND		mg/kg	0.0013	0.00018	1
p/m-Xylene	ND		mg/kg	0.0026	0.00074	1
o-Xylene	ND		mg/kg	0.0013	0.00038	1
Xylenes, Total	ND		mg/kg	0.0013	0.00038	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0026	0.00025	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0026	0.00044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-12
Client ID: DUP-46
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/20/22 01:40
Analyst: JC
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0033	0.00033	1
Benzene	ND		mg/kg	0.00083	0.00028	1
1,2-Dichloroethane	ND		mg/kg	0.0017	0.00043	1
Toluene	ND		mg/kg	0.0017	0.00090	1
1,2-Dibromoethane	ND		mg/kg	0.00083	0.00049	1
Ethylbenzene	ND		mg/kg	0.0017	0.00023	1
p/m-Xylene	ND		mg/kg	0.0033	0.00093	1
o-Xylene	ND		mg/kg	0.0017	0.00048	1
Xylenes, Total	ND		mg/kg	0.0017	0.00048	1
Isopropylbenzene	ND		mg/kg	0.0017	0.00018	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0033	0.00032	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0033	0.00056	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-13
Client ID: FB-07152022-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/20/22 15:50
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/20/22 13:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-13
Client ID: FB-07152022-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/20/22 13:28
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	125		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	127		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-14
Client ID: FB-07152022-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/20/22 15:56
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/20/22 13:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-14
Client ID: FB-07152022-3
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/20/22 13:55
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	122		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	129		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-15
Client ID: TB-071522
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/20/22 16:03
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/20/22 13:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-15
Client ID: TB-071522
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/20/22 14:21
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	123		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	**131**	Q	70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/20/22 14:35
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/20/22 13:30

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 13-15 Batch: WG1664686-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/19/22 09:51
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03-08 Batch: WG1664964-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/19/22 23:46
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 09-12 Batch: WG1665206-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2238021

Project Number: 200.00135.006 **Report Date:** 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/20/22 08:50
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1665306-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	90		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/20/22 08:50
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 02 Batch: WG1665578-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	91		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/20/22 08:41
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 13-15 Batch: WG1665694-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	124		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2238021

Project Number: 200.00135.006 **Report Date:** 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/21/22 11:39
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 02 Batch: WG1666031-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	86		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	86		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238021

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 13-15 Batch: WG1664686-2								
1,2-Dibromoethane	93		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238021

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 03-08 Batch: WG1664964-3 WG1664964-4								
Methyl tert butyl ether	122		119		66-130	2		30
Benzene	110		103		70-130	7		30
1,2-Dichloroethane	102		100		70-130	2		30
Toluene	108		103		70-130	5		30
1,2-Dibromoethane	109		109		70-130	0		30
Ethylbenzene	107		102		70-130	5		30
p/m-Xylene	109		103		70-130	6		30
o-Xylene	108		103		70-130	5		30
Isopropylbenzene	110		103		70-130	7		30
1,3,5-Trimethylbenzene	107		101		70-130	6		30
1,2,4-Trimethylbenzene	108		102		70-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		96		70-130
Toluene-d8	102		102		70-130
4-Bromofluorobenzene	105		105		70-130
Dibromofluoromethane	93		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 09-12 Batch: WG1665206-3 WG1665206-4								
Methyl tert butyl ether	116		115		66-130	1		30
Benzene	107		106		70-130	1		30
1,2-Dichloroethane	98		98		70-130	0		30
Toluene	105		105		70-130	0		30
1,2-Dibromoethane	104		104		70-130	0		30
Ethylbenzene	104		104		70-130	0		30
p/m-Xylene	105		105		70-130	0		30
o-Xylene	105		104		70-130	1		30
Isopropylbenzene	108		108		70-130	0		30
1,3,5-Trimethylbenzene	104		104		70-130	0		30
1,2,4-Trimethylbenzene	105		105		70-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	101		102		70-130
4-Bromofluorobenzene	106		105		70-130
Dibromofluoromethane	91		91		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1665306-3 WG1665306-4								
Methyl tert butyl ether	100		98		66-130	2		30
Benzene	88		84		70-130	5		30
1,2-Dichloroethane	**69**	Q	**66**	Q	70-130	4		30
Toluene	88		85		70-130	3		30
1,2-Dibromoethane	85		83		70-130	2		30
Ethylbenzene	85		82		70-130	4		30
p/m-Xylene	88		86		70-130	2		30
o-Xylene	87		84		70-130	4		30
Isopropylbenzene	92		89		70-130	3		30
1,3,5-Trimethylbenzene	88		86		70-130	2		30
1,2,4-Trimethylbenzene	87		85		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	76		75		70-130
Toluene-d8	102		101		70-130
4-Bromofluorobenzene	104		103		70-130
Dibromofluoromethane	78		77		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 02 Batch: WG1665578-3 WG1665578-4								
Methyl tert butyl ether	100		98		66-130	2		30
Benzene	88		84		70-130	5		30
1,2-Dichloroethane	**69**	Q	**66**	Q	70-130	4		30
Toluene	88		85		70-130	3		30
1,2-Dibromoethane	85		83		70-130	2		30
Ethylbenzene	85		82		70-130	4		30
p/m-Xylene	88		86		70-130	2		30
o-Xylene	87		84		70-130	4		30
Isopropylbenzene	92		89		70-130	3		30
1,3,5-Trimethylbenzene	88		86		70-130	2		30
1,2,4-Trimethylbenzene	87		85		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	76		75		70-130
Toluene-d8	102		101		70-130
4-Bromofluorobenzene	104		103		70-130
Dibromofluoromethane	78		77		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238021

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 13-15 Batch: WG1665694-3 WG1665694-4								
Methyl tert butyl ether	87		94		63-130	8		20
Benzene	110		110		70-130	0		20
1,2-Dichloroethane	100		100		70-130	0		20
Toluene	99		100		70-130	1		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	105		105		70-130	0		20
o-Xylene	100		100		70-130	0		20
Isopropylbenzene	91		92		70-130	1		20
1,3,5-Trimethylbenzene	94		95		64-130	1		20
1,2,4-Trimethylbenzene	93		94		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		102		70-130
Toluene-d8	96		96		70-130
4-Bromofluorobenzene	87		87		70-130
Dibromofluoromethane	110		110		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238021

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 02 Batch: WG1666031-3 WG1666031-4								
Methyl tert butyl ether	102		101		66-130	1		30
Benzene	86		86		70-130	0		30
1,2-Dichloroethane	**66**	Q	**66**	Q	70-130	0		30
Toluene	90		88		70-130	2		30
1,2-Dibromoethane	84		85		70-130	1		30
Ethylbenzene	86		83		70-130	4		30
p/m-Xylene	88		86		70-130	2		30
o-Xylene	89		85		70-130	5		30
Isopropylbenzene	93		91		70-130	2		30
1,3,5-Trimethylbenzene	88		86		70-130	2		30
1,2,4-Trimethylbenzene	86		85		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	72		74		70-130
Toluene-d8	103		103		70-130
4-Bromofluorobenzene	103		104		70-130
Dibromofluoromethane	75		75		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-01
Client ID: PB-884-24-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 08:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 16:34
Analyst: IM
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.082	J	mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	0.042	J	mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	0.051	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.048	J	mg/kg	0.12	0.023	1
Chrysene	0.040	J	mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	0.046	J	mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-02
Client ID: PB-884-25-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 08:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 16:58
Analyst: IM
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	2.1		mg/kg	0.18	0.022	1
Fluorene	0.31		mg/kg	0.18	0.017	1
Phenanthrene	0.53		mg/kg	0.11	0.022	1
Anthracene	0.035	J	mg/kg	0.11	0.035	1
Pyrene	0.048	J	mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.022	J	mg/kg	0.11	0.020	1
Chrysene	0.084	J	mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.044	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**122**	Q	23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-03
Client ID: PB-886-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 17:22
Analyst: IM
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	91		23-120
2-Fluorobiphenyl	76		30-120
4-Terphenyl-d14	89		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-04
Client ID: PB-886-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 17:47
Analyst: IM
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	93		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-05
Client ID: PB-886-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 12:55
Analyst: IM
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.041	J	mg/kg	0.18	0.022	1
Fluorene	0.35		mg/kg	0.18	0.017	1
Phenanthrene	0.78		mg/kg	0.11	0.022	1
Anthracene	0.16		mg/kg	0.11	0.034	1
Pyrene	0.049	J	mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	54		30-120
4-Terphenyl-d14	68		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-06
Client ID: PB-886-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:45
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 13:19
Analyst: IM
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	62		23-120
2-Fluorobiphenyl	52		30-120
4-Terphenyl-d14	52		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-07
Client ID: PB-886-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 10:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 18:11
Analyst: IM
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	89		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-08
Client ID: PB-886-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 10:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 18:35
Analyst: IM
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	95		23-120
2-Fluorobiphenyl	84		30-120
4-Terphenyl-d14	95		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-09
Client ID: PB-886-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 10:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 13:44
Analyst: IM
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	62		23-120
2-Fluorobiphenyl	56		30-120
4-Terphenyl-d14	59		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-10
Client ID: PB-886-20-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 10:45
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 14:08
Analyst: IM
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	75		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-11
Client ID: PB-191-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 14:32
Analyst: IM
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.21	0.025	1
Fluorene	ND		mg/kg	0.21	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	0.16		mg/kg	0.12	0.021	1
Benzo(a)anthracene	0.11	J	mg/kg	0.12	0.023	1
Chrysene	0.10	J	mg/kg	0.12	0.022	1
Benzo(b)fluoranthene	0.13		mg/kg	0.12	0.035	1
Benzo(a)pyrene	0.12	J	mg/kg	0.17	0.051	1
Indeno(1,2,3-cd)pyrene	0.070	J	mg/kg	0.17	0.029	1
Benzo(ghi)perylene	0.060	J	mg/kg	0.17	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	61		30-120
4-Terphenyl-d14	66		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-12
Client ID: DUP-46
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 14:57
Analyst: IM
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.023	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	59		23-120
2-Fluorobiphenyl	52		30-120
4-Terphenyl-d14	56		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-13
Client ID: FB-07152022-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/17/22 19:12
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/16/22 08:39

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.09	J	ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	0.04	J	ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.02	J	ug/l	0.05	0.02	1
Chrysene	0.01	J	ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	36		23-120
2-Fluorobiphenyl	39		15-120
4-Terphenyl-d14	45		41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-14
Client ID: FB-07152022-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/22/22 13:35
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/21/22 15:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.03	J	ug/l	0.05	0.02	1
Chrysene	0.02	J	ug/l	0.10	0.01	1
Benzo(b)fluoranthene	0.04	J	ug/l	0.05	0.01	1
Benzo(a)pyrene	0.02	J	ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	0.03	J	ug/l	0.10	0.01	1
Benzo(ghi)perylene	0.03	J	ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	42		23-120
2-Fluorobiphenyl	41		15-120
4-Terphenyl-d14	**39**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/17/22 16:33
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/16/22 08:39

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 13 Batch: WG1663655-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	0.03	J	ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	0.02	J	ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	38		23-120
2-Fluorobiphenyl	41		15-120
4-Terphenyl-d14	49		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/18/22 11:42
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-12 Batch: WG1663763-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.13	0.023
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	88		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/22/22 12:13
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/21/22 15:05

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 14 Batch: WG1665807-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	0.03	J	ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	0.02	J	ug/l	0.05	0.02
Chrysene	0.01	J	ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	81		15-120
4-Terphenyl-d14	86		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 13 Batch: WG1663655-2 WG1663655-3								
Naphthalene	80		69		40-140	15		40
Fluorene	83		73		40-140	13		40
Phenanthrene	84		73		40-140	14		40
Anthracene	85		74		40-140	14		40
Pyrene	92		80		26-127	14		40
Benzo(a)anthracene	84		73		40-140	14		40
Chrysene	87		78		40-140	11		40
Benzo(b)fluoranthene	88		85		40-140	3		40
Benzo(a)pyrene	87		76		40-140	13		40
Indeno(1,2,3-cd)pyrene	98		88		40-140	11		40
Benzo(ghi)perylene	97		85		40-140	13		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	40		35		23-120
2-Fluorobiphenyl	42		37		15-120
4-Terphenyl-d14	47		42		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-12 Batch: WG1663763-2 WG1663763-3								
Naphthalene	68		62		40-140	9		50
Fluorene	71		64		40-140	10		50
Phenanthrene	66		62		40-140	6		50
Anthracene	69		65		40-140	6		50
Pyrene	74		62		35-142	18		50
Benzo(a)anthracene	71		66		40-140	7		50
Chrysene	71		66		40-140	7		50
Benzo(b)fluoranthene	74		67		40-140	10		50
Benzo(a)pyrene	78		62		40-140	23		50
Indeno(1,2,3-cd)pyrene	74		76		40-140	3		50
Benzo(ghi)perylene	66		65		40-140	2		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	76		70		23-120
2-Fluorobiphenyl	71		65		30-120
4-Terphenyl-d14	80		66		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 14 Batch: WG1665807-2 WG1665807-3								
Naphthalene	84		79		40-140	6		40
Fluorene	89		86		40-140	3		40
Phenanthrene	88		82		40-140	7		40
Anthracene	90		81		40-140	11		40
Pyrene	89		77		26-127	14		40
Benzo(a)anthracene	90		84		40-140	7		40
Chrysene	89		82		40-140	8		40
Benzo(b)fluoranthene	92		85		40-140	8		40
Benzo(a)pyrene	90		84		40-140	7		40
Indeno(1,2,3-cd)pyrene	99		93		40-140	6		40
Benzo(ghi)perylene	97		91		40-140	6		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	84		78		23-120
2-Fluorobiphenyl	84		75		15-120
4-Terphenyl-d14	88		73		41-149

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-01
Client ID: PB-884-24-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 08:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	45.9		mg/kg	11.7	0.626	5	07/18/22 08:15	07/18/22 17:41	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-02
Client ID: PB-884-25-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 08:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.11		mg/kg	2.13	0.114	1	07/18/22 08:15	07/18/22 18:17	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-03
Client ID: PB-886-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.26		mg/kg	2.20	0.118	1	07/18/22 08:15	07/18/22 18:22	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-04
Client ID: PB-886-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.62		mg/kg	2.23	0.119	1	07/18/22 08:15	07/18/22 18:27	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-05
Client ID: PB-886-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.97	J	mg/kg	2.11	0.113	1	07/18/22 08:15	07/18/22 18:31	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-06
Client ID: PB-886-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:45
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.04		mg/kg	2.26	0.121	1	07/18/22 08:15	07/18/22 18:36	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-07
Client ID: PB-886-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 10:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.16	J	mg/kg	2.18	0.117	1	07/18/22 08:15	07/18/22 18:41	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-08
Client ID: PB-886-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 10:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.56		mg/kg	2.20	0.118	1	07/18/22 08:15	07/18/22 18:46	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-09
Client ID: PB-886-19-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 10:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.28		mg/kg	2.24	0.120	1	07/18/22 08:15	07/18/22 18:51	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-10
Client ID: PB-886-20-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 10:45
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.19	J	mg/kg	2.22	0.119	1	07/18/22 08:15	07/18/22 18:55	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-11
Client ID: PB-191-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	19.8		mg/kg	2.41	0.129	1	07/18/22 08:15	07/18/22 19:00	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-12
Client ID: DUP-46
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.04	J	mg/kg	2.14	0.115	1	07/18/22 08:15	07/18/22 19:14	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-13
Client ID: FB-07152022-2
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/18/22 13:42	07/19/22 19:59	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-14
Client ID: FB-07152022-3
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/18/22 13:42	07/19/22 20:57	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-12 Batch: WG1664023-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/18/22 08:15	07/18/22 16:10	1,6010D	NB

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 13-14 Batch: WG1664131-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/18/22 13:42	07/19/22 18:48	1,6020B	SV

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238021

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-12 Batch: WG1664023-2 SRM Lot Number: D113-540								
Lead, Total	98		-		72-128	-		
Total Metals - Mansfield Lab Associated sample(s): 13-14 Batch: WG1664131-2								
Lead, Total	104		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-12 QC Batch ID: WG1664023-3 QC Sample: L2238021-01 Client ID: PB-884-24-SS01												
Lead, Total	45.9	51.2	65.5	**38**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 13-14 QC Batch ID: WG1664131-3 QC Sample: L2237200-07 Client ID: MS Sample												
Lead, Total	ND	530	528.2	100		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238021

Report Date: 07/22/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-12 QC Batch ID: WG1664023-4 QC Sample: L2238021-01 Client ID: PB-884-24-SS01						
Lead, Total	45.9	37.0	mg/kg	**21**	Q	20
Total Metals - Mansfield Lab Associated sample(s): 13-14 QC Batch ID: WG1664131-4 QC Sample: L2237200-07 Client ID: DUP Sample						
Lead, Total	ND	ND	ug/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-01
Client ID: PB-884-24-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 08:15
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.4		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-02
Client ID: PB-884-25-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 08:30
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.1		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-03
Client ID: PB-886-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 09:00
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.7		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-04
Client ID: PB-886-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 09:15
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.5		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-05
Client ID: PB-886-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 09:30
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.5		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-06
Client ID: PB-886-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 09:45
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.9		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-07
Client ID: PB-886-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 10:00
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.2		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-08
Client ID: PB-886-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 10:15
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.1		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-09
Client ID: PB-886-19-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 10:30
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.9		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-10
Client ID: PB-886-20-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 10:45
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.6		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-11
Client ID: PB-191-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/15/22 11:00
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.2		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-12
Client ID: DUP-46
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.5		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238021

Report Date: 07/22/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-12 QC Batch ID: WG1663681-1 QC Sample: L2237931-01 Client ID: DUP Sample						
Solids, Total	82.6	82.0	%	1		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2238021-01A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-01B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-01C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-01D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-01E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-01F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-02A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-02B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-02C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-02D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-02E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-02F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-03A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-03B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-03C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-03D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-03E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-03F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-04A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-04B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-04C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2238021-04D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-04E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-04F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-05A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-05B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-05C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-05D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-05E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-05F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-06A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-06B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-06C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-06D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-06E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-06F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-07A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-07B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238021-07C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238021-07D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-07E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-07F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-08A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)
L2238021-08B	Vial water preserved	A	NA		2.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238021-08C	Vial water preserved	A	NA		2.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238021-08D	Plastic 2oz unpreserved for TS	A	NA		2.7	Y	Absent		TS(7)
L2238021-08E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		PB-TI(180)
L2238021-08F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		PA-PAH(14)
L2238021-09A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2238021-09B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238021-09C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238021-09D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-09E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-09F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-10A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-10B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238021-10C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238021-10D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-10E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-10F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-11A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-11B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-11C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-11D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-11E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-11F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-12A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-12B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-12C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-12D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-12E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-12F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-13A	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238021-13B	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238021-13C	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238021-13D	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		8011(14)
L2238021-13E	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2238021-13F	Amber 250ml unpreserved	A	7	7	2.7	Y	Absent		PA-PAHSIM-LVI(7)
L2238021-13G	Amber 250ml unpreserved	A	7	7	2.7	Y	Absent		PA-PAHSIM-LVI(7)
L2238021-13H	Plastic 250ml HNO3 preserved	A	<2	<2	2.7	Y	Absent		PB-6020T-PPB(180)
L2238021-14A	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238021-14B	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238021-14C	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238021-14D	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		8011(14)
L2238021-14E	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		8011(14)
L2238021-14F	Amber 250ml unpreserved	A	7	7	2.7	Y	Absent		PA-PAHSIM-LVI(7)
L2238021-14G	Amber 250ml unpreserved	A	7	7	2.7	Y	Absent		PA-PAHSIM-LVI(7)
L2238021-14H	Plastic 250ml HNO3 preserved	A	<2	<2	2.7	Y	Absent		PB-6020T-PPB(180)
L2238021-15A	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238021-15B	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238021-15C	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		8011(14)
L2238021-15D	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238021
Project Number:	200.00135.006	**Report Date:**	07/22/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238021
Project Number:	200.00135.006	**Report Date:**	07/22/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238021
Project Number:	200.00135.006	**Report Date:**	07/22/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238021
Project Number:	200.00135.006	**Report Date:**	07/22/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/16/22

ALPHA Job #: L2238021

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SHORTLIST 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
38021-01	PB-884-21-5501	7/15	0815	S	TS	
-02	PB-884-25-5501		0830			
-03	PB-886-06-5501		0900			
-04	PB-886-07-5501		0915			
-05	PB-886-10-5501		0930			
-06	PB-886-13-5501		0945			
-07	PB-886-14-5501		1000			
-08	PB-886-15-5501		1015			
-09	PB-886-19-5501		1030			
-10	PB-886-20-5501	↓	1045	↓	↓	

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/15 15:15	Omea Jeay	7/15/22 15:15
Omea Jeay	7/15/22 2001		
	7/15/22 2100		7/15/22 2100

C/ BDL 7/15/22 2350

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(I) (rev. 3-JAN-13)

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 7/16/22

ALPHA Job #: L2238021

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	SHORTLIST 1-6	SHORTLIST 1-5	VOC PORTION OF SL 1-6	EDB (8011)	Sample Specific Comments	TOTAL # BOTTLES
38021-01	PB-141-03-5501	7/15	1100	S	IS	☐	☐	☐	☐		
-02	DUP-46		-	S	IS	☐	☑	☐	☐		
-03	FB-071522-2		1115	W	IS	☑	☐	☐	☐		
-04	FB-071522-3		1130	W	IS	☑	☐	☑	☑		
-05	TB-071522		-	W	IS	☐	☐	☑	☑		

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
	7/15/22 15:15		7/15/22 15:15
	7/15/22 1A.		7-15 1801
	7-15 2105		7/15/22 2300
7/15/22		7/15/22 2350	

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(N2) (rev. 5-JAN-13)

PADEP Short List Analytical Suites per Table III-5:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

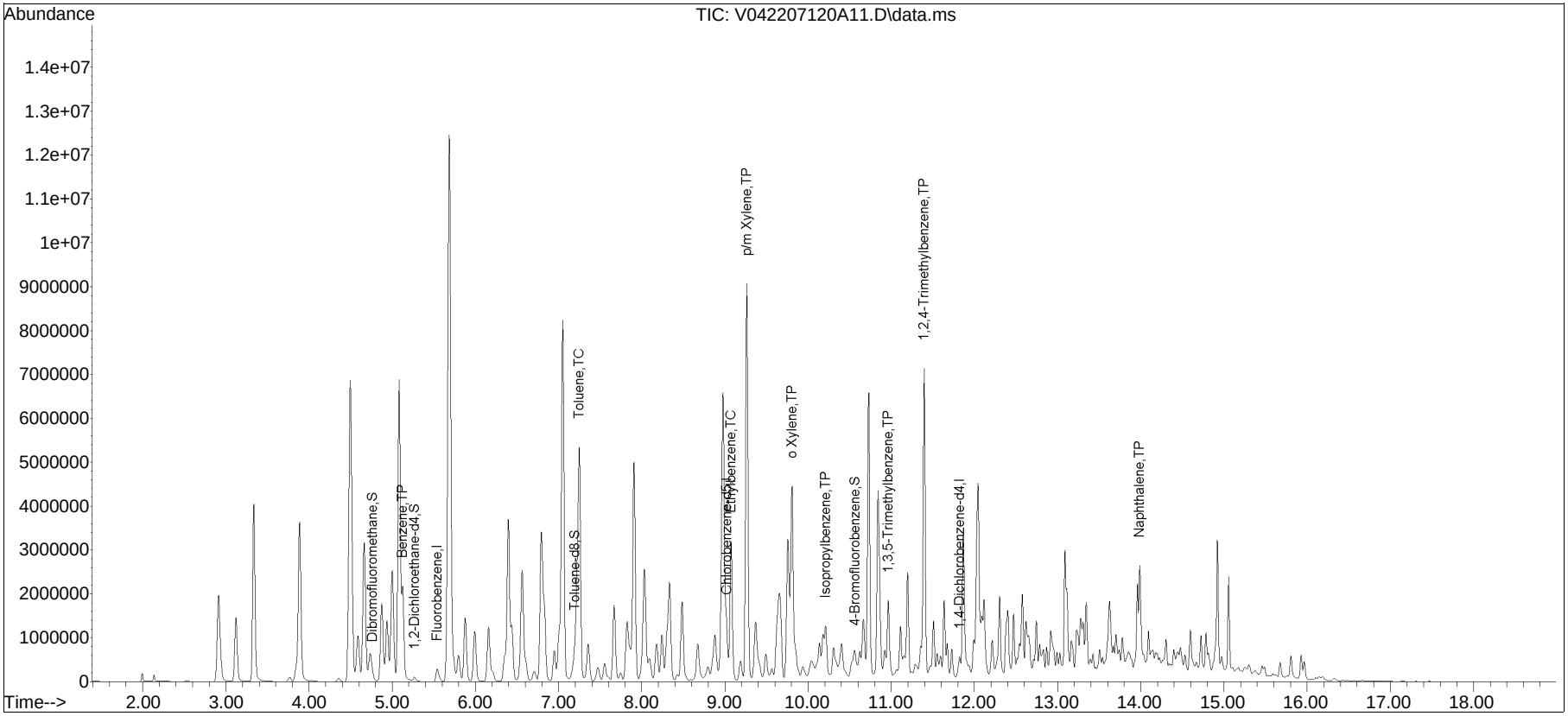
5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA104\2022\2207120A\
Data File : V042207120A11.D
Acq On : 20 Jul 2022 11:29 am
Operator : VOA104:JC
Sample : L2238021-02,31H,5.41,5,0.100,,A,R2F
Misc : WG1665578,ICAL19119
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 21 07:02:24 2022
Quant Method : I:\VOLATILES\VOA104\2022\2207120A\V104_220621A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 22 06:56:43 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list120A\V042207120A01.D•

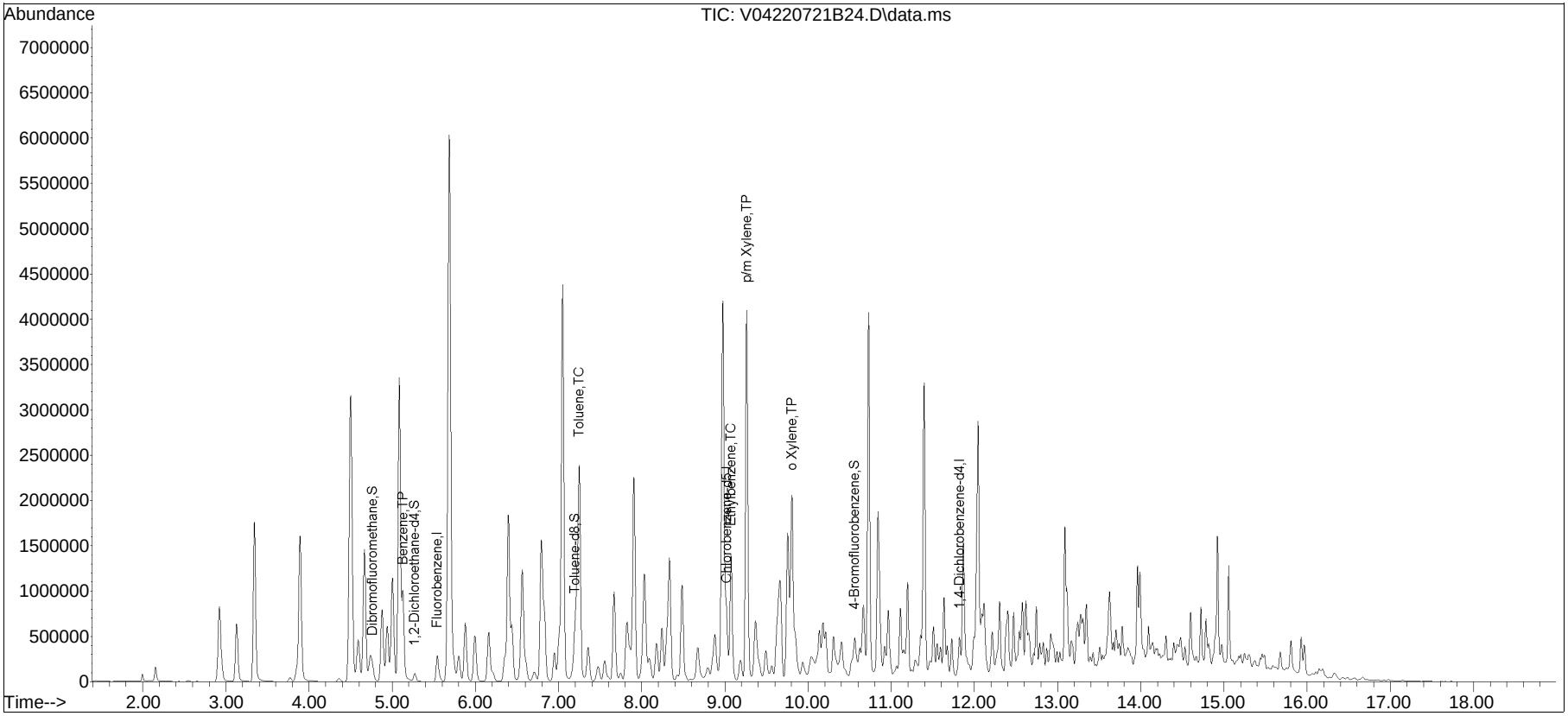


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA104\2022\220721B\
Data File : V04220721B24.D
Acq On : 21 Jul 2022 6:41 pm
Operator : VOA104:AJK
Sample : L2238021-02D,31H,5.42,5,0.050,,A,R2F
Misc : WG1666031,ICAL19119
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Jul 21 23:27:34 2022
Quant Method : I:\VOLATILES\VOA104\2022\220721B\V104_220621A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 22 06:56:43 2022
Response via : Initial Calibration

Sub List : 8260-BTEX - Standard BTEX List20721B\V04220721B04.D•

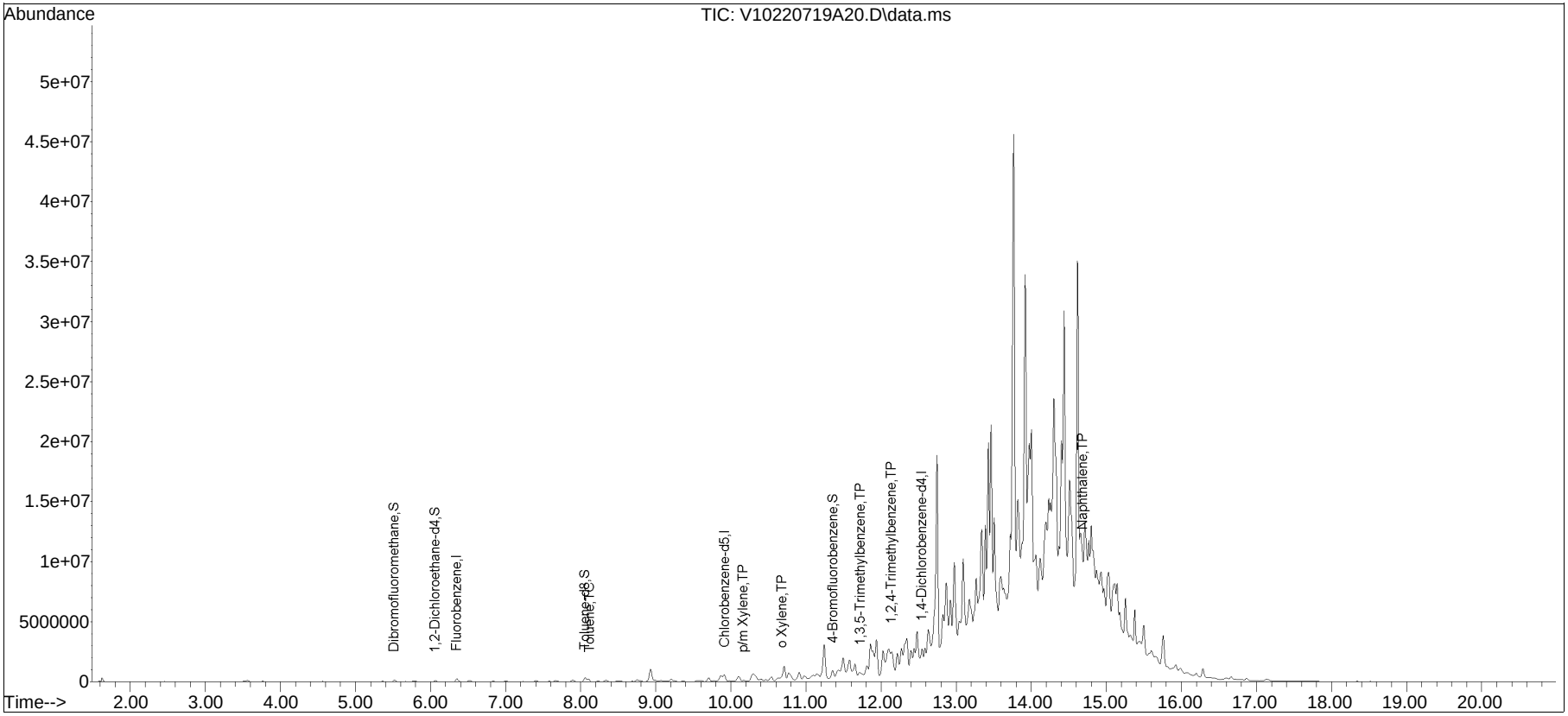


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA110\2022\220719A\
Data File : V10220719A20.D
Acq On : 19 Jul 2022 5:43 pm
Operator : VOA110:AJK
Sample : l2238021-05,31,4.51,5,,b,r2f
Misc : WG1664964,ICAL18890
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Jul 19 18:10:44 2022
Quant Method : I:\VOLATILES\VOA110\2022\220719A\V110_220401N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 04 06:52:50 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list19A\V10220719A01.D•



ANALYTICAL REPORT

Lab Number:	L2238022
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/22/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238022
Report Date: 07/22/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2238022-01	PB-885-17-SS01	SOIL	PHILADELPHIA, PA	07/15/22 09:00	07/15/22
L2238022-02	PB-885-18-SS01	SOIL	PHILADELPHIA, PA	07/15/22 09:10	07/15/22
L2238022-03	PB-885-19-SS01	SOIL	PHILADELPHIA, PA	07/15/22 09:20	07/15/22
L2238022-04	PB-885-24-SS01	SOIL	PHILADELPHIA, PA	07/15/22 09:30	07/15/22
L2238022-05	PB-886-16-SS01	SOIL	PHILADELPHIA, PA	07/15/22 11:00	07/15/22
L2238022-06	PB-886-17-SS01	SOIL	PHILADELPHIA, PA	07/15/22 11:10	07/15/22
L2238022-07	PB-886-21-SS01	SOIL	PHILADELPHIA, PA	07/15/22 11:20	07/15/22
L2238022-08	PB-886-22-SS01	SOIL	PHILADELPHIA, PA	07/15/22 11:30	07/15/22
L2238022-09	PB-886-23-SS01	SOIL	PHILADELPHIA, PA	07/15/22 11:40	07/15/22
L2238022-10	PB-886-25-SS01	SOIL	PHILADELPHIA, PA	07/15/22 11:50	07/15/22
L2238022-11	DUP-45	SOIL	PHILADELPHIA, PA	07/15/22 00:00	07/15/22
L2238022-12	FB-071522-1	WATER	PHILADELPHIA, PA	07/15/22 14:00	07/15/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238022
Project Number:	200.00135.006	**Report Date:**	07/22/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238022
Project Number:	200.00135.006	**Report Date:**	07/22/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Total Metals

The WG1664025-3 MS recovery, performed on L2238022-01, is outside the acceptance criteria for lead (54%). A post digestion spike was performed and yielded an unacceptable recovery for lead (53%). The serial dilution recovery was not applicable; therefore, this element fails the matrix test and the result reported in the native sample should be considered estimated.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 07/22/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-01
Client ID: PB-885-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 10:21
Analyst: NLK
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0016	0.00016	1
Benzene	ND		mg/kg	0.00041	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00082	0.00021	1
Toluene	ND		mg/kg	0.00082	0.00044	1
1,2-Dibromoethane	ND		mg/kg	0.00041	0.00024	1
Ethylbenzene	ND		mg/kg	0.00082	0.00012	1
p/m-Xylene	ND		mg/kg	0.0016	0.00046	1
o-Xylene	ND		mg/kg	0.00082	0.00024	1
Xylenes, Total	ND		mg/kg	0.00082	0.00024	1
Isopropylbenzene	ND		mg/kg	0.00082	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0016	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0016	0.00027	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-02
Client ID: PB-885-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:10
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 10:52
Analyst: NLK
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	ND		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00090	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00090	0.00026	1
Xylenes, Total	ND		mg/kg	0.00090	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-03
Client ID: PB-885-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:20
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 11:23
Analyst: NLK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00018	1
Benzene	ND		mg/kg	0.00044	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00087	0.00022	1
Toluene	ND		mg/kg	0.00087	0.00047	1
1,2-Dibromoethane	ND		mg/kg	0.00044	0.00026	1
Ethylbenzene	ND		mg/kg	0.00087	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00049	1
o-Xylene	ND		mg/kg	0.00087	0.00025	1
Xylenes, Total	ND		mg/kg	0.00087	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00087	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-04
Client ID: PB-885-24-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 11:55
Analyst: NLK
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00063	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00065	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-05
Client ID: PB-886-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 12:28
Analyst: NLK
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00087	0.00022	1
Toluene	ND		mg/kg	0.00087	0.00047	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	ND		mg/kg	0.00087	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00049	1
o-Xylene	ND		mg/kg	0.00087	0.00025	1
Xylenes, Total	ND		mg/kg	0.00087	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00087	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-06
Client ID: PB-886-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:10
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 12:59
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00057	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00031	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.00012	J	mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	0.00082	J	mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	0.0025		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-07
Client ID: PB-886-21-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:20
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 13:30
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00044	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00089	0.00023	1
Toluene	ND		mg/kg	0.00089	0.00048	1
1,2-Dibromoethane	ND		mg/kg	0.00044	0.00026	1
Ethylbenzene	ND		mg/kg	0.00089	0.00012	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00089	0.00026	1
Xylenes, Total	ND		mg/kg	0.00089	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00089	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-08
Client ID: PB-886-22-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 14:01
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-09
Client ID: PB-886-23-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:40
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 14:34
Analyst: AJK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-10
Client ID: PB-886-25-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:50
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 15:06
Analyst: AJK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	ND		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00090	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00090	0.00026	1
Xylenes, Total	ND		mg/kg	0.00090	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-11
Client ID: DUP-45
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 15:37
Analyst: AJK
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00019	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00093	0.00024	1
Toluene	ND		mg/kg	0.00093	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00093	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00052	1
o-Xylene	ND		mg/kg	0.00093	0.00027	1
Xylenes, Total	ND		mg/kg	0.00093	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00093	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-12
Client ID: FB-071522-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 14:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/20/22 16:10
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/20/22 13:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-12
Client ID: FB-071522-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 14:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/20/22 14:47
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	125		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	**134**	Q	70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/20/22 14:35
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/20/22 13:30

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 12 Batch: WG1664686-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/19/22 09:51
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-11 Batch: WG1664964-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/20/22 08:41
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 12 Batch: WG1665694-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	124		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238022

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 12		Batch: WG1664686-2						
1,2-Dibromoethane	93		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238022

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-11 Batch: WG1664964-3 WG1664964-4								
Methyl tert butyl ether	122		119		66-130	2		30
Benzene	110		103		70-130	7		30
1,2-Dichloroethane	102		100		70-130	2		30
Toluene	108		103		70-130	5		30
1,2-Dibromoethane	109		109		70-130	0		30
Ethylbenzene	107		102		70-130	5		30
p/m-Xylene	109		103		70-130	6		30
o-Xylene	108		103		70-130	5		30
Isopropylbenzene	110		103		70-130	7		30
1,3,5-Trimethylbenzene	107		101		70-130	6		30
1,2,4-Trimethylbenzene	108		102		70-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		96		70-130
Toluene-d8	102		102		70-130
4-Bromofluorobenzene	105		105		70-130
Dibromofluoromethane	93		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238022
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 12 Batch: WG1665694-3 WG1665694-4								
Methyl tert butyl ether	87		94		63-130	8		20
Benzene	110		110		70-130	0		20
1,2-Dichloroethane	100		100		70-130	0		20
Toluene	99		100		70-130	1		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	105		105		70-130	0		20
o-Xylene	100		100		70-130	0		20
Isopropylbenzene	91		92		70-130	1		20
1,3,5-Trimethylbenzene	94		95		64-130	1		20
1,2,4-Trimethylbenzene	93		94		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		102		70-130
Toluene-d8	96		96		70-130
4-Bromofluorobenzene	87		87		70-130
Dibromofluoromethane	110		110		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-01
Client ID: PB-885-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 15:21
Analyst: IM
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	68		30-120
4-Terphenyl-d14	72		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-02
Client ID: PB-885-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:10
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 15:45
Analyst: IM
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.021	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	70		23-120
2-Fluorobiphenyl	63		30-120
4-Terphenyl-d14	69		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-03
Client ID: PB-885-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:20
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 16:10
Analyst: IM
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	79		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-04
Client ID: PB-885-24-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 19:00
Analyst: IM
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	87		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-05
Client ID: PB-886-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 19:24
Analyst: IM
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.044	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-06
Client ID: PB-886-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:10
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 19:48
Analyst: IM
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.092	J	mg/kg	0.19	0.023	1
Fluorene	0.046	J	mg/kg	0.19	0.019	1
Phenanthrene	0.13		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	84		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-07
Client ID: PB-886-21-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:20
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 20:12
Analyst: IM
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.037	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	96		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-08
Client ID: PB-886-22-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 20:37
Analyst: IM
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-09
Client ID: PB-886-23-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:40
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 19:01
Analyst: IM
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 23:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.023	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	49		30-120
4-Terphenyl-d14	60		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-10
Client ID: PB-886-25-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:50
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 19:25
Analyst: IM
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 23:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	103		23-120
2-Fluorobiphenyl	56		30-120
4-Terphenyl-d14	64		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-11
Client ID: DUP-45
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 19:48
Analyst: IM
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 23:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	108		23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	77		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-12
Client ID: FB-071522-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 14:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/17/22 19:44
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/16/22 08:39

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	26		23-120
2-Fluorobiphenyl	28		15-120
4-Terphenyl-d14	**34**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/17/22 16:33
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/16/22 08:39

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 12 Batch: WG1663655-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	0.03	J	ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	0.02	J	ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	38		23-120
2-Fluorobiphenyl	41		15-120
4-Terphenyl-d14	49		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/18/22 11:42
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-08 Batch: WG1663763-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	88		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/18/22 16:15
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 07/16/22 23:15

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 09-11 Batch: WG1663766-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.099	0.020
Anthracene	ND		mg/kg	0.099	0.032
Pyrene	ND		mg/kg	0.099	0.016
Benzo(a)anthracene	ND		mg/kg	0.099	0.019
Chrysene	ND		mg/kg	0.099	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.099	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	119		23-120
2-Fluorobiphenyl	64		30-120
4-Terphenyl-d14	81		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238022
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 12 Batch: WG1663655-2 WG1663655-3								
Naphthalene	80		69		40-140	15		40
Fluorene	83		73		40-140	13		40
Phenanthrene	84		73		40-140	14		40
Anthracene	85		74		40-140	14		40
Pyrene	92		80		26-127	14		40
Benzo(a)anthracene	84		73		40-140	14		40
Chrysene	87		78		40-140	11		40
Benzo(b)fluoranthene	88		85		40-140	3		40
Benzo(a)pyrene	87		76		40-140	13		40
Benzo(ghi)perylene	97		85		40-140	13		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	40		35		23-120
2-Fluorobiphenyl	42		37		15-120
4-Terphenyl-d14	47		42		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238022

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 Batch: WG1663763-2 WG1663763-3								
Naphthalene	68		62		40-140	9		50
Fluorene	71		64		40-140	10		50
Phenanthrene	66		62		40-140	6		50
Anthracene	69		65		40-140	6		50
Pyrene	74		62		35-142	18		50
Benzo(a)anthracene	71		66		40-140	7		50
Chrysene	71		66		40-140	7		50
Benzo(b)fluoranthene	74		67		40-140	10		50
Benzo(a)pyrene	78		62		40-140	23		50
Benzo(ghi)perylene	66		65		40-140	2		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	76		70		23-120
2-Fluorobiphenyl	71		65		30-120
4-Terphenyl-d14	80		66		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 09-11 Batch: WG1663766-2 WG1663766-3								
Naphthalene	66		56		40-140	16		50
Fluorene	69		61		40-140	12		50
Phenanthrene	68		61		40-140	11		50
Anthracene	70		64		40-140	9		50
Pyrene	67		68		35-142	1		50
Benzo(a)anthracene	69		63		40-140	9		50
Chrysene	68		61		40-140	11		50
Benzo(b)fluoranthene	70		62		40-140	12		50
Benzo(a)pyrene	70		63		40-140	11		50
Benzo(ghi)perylene	69		62		40-140	11		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	99		98		23-120
2-Fluorobiphenyl	64		56		30-120
4-Terphenyl-d14	71		79		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-01
Client ID: PB-885-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.53	J	mg/kg	2.21	0.118	1	07/18/22 08:55	07/21/22 08:31	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-02
Client ID: PB-885-18-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:10
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.49	J	mg/kg	2.06	0.110	1	07/18/22 08:55	07/21/22 09:50	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-03
Client ID: PB-885-19-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:20
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.93	J	mg/kg	2.13	0.114	1	07/18/22 08:55	07/21/22 09:54	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-04
Client ID: PB-885-24-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.63	J	mg/kg	2.16	0.116	1	07/18/22 08:55	07/21/22 09:59	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-05
Client ID: PB-886-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.82	J	mg/kg	2.13	0.114	1	07/18/22 08:55	07/21/22 10:04	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-06
Client ID: PB-886-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:10
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.80	J	mg/kg	2.27	0.122	1	07/18/22 08:55	07/21/22 10:09	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-07
Client ID: PB-886-21-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:20
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.82	J	mg/kg	2.23	0.120	1	07/18/22 08:55	07/21/22 10:14	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-08
Client ID: PB-886-22-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.06	J	mg/kg	2.24	0.120	1	07/18/22 08:55	07/21/22 10:51	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-09
Client ID: PB-886-23-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:40
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.95	J	mg/kg	2.21	0.118	1	07/18/22 08:55	07/21/22 10:56	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-10
Client ID: PB-886-25-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:50
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.81	J	mg/kg	2.18	0.117	1	07/18/22 08:55	07/21/22 11:01	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-11
Client ID: DUP-45
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.24		mg/kg	2.16	0.116	1	07/18/22 08:55	07/21/22 11:06	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-12
Client ID: FB-071522-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 14:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/18/22 13:42	07/19/22 21:02	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-11 Batch: WG1664025-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/18/22 08:55	07/21/22 08:08	1,6010D	SB

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 12 Batch: WG1664131-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/18/22 13:42	07/19/22 18:48	1,6020B	SV

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238022

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-11 Batch: WG1664025-2 SRM Lot Number: D113-540								
Lead, Total	93		-		72-128	-		
Total Metals - Mansfield Lab Associated sample(s): 12 Batch: WG1664131-2								
Lead, Total	104		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238022
Report Date: 07/22/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-11 QC Batch ID: WG1664025-3 QC Sample: L2238022-01 Client ID: PB-885-17-SS01												
Lead, Total	1.53J	47.1	25.4	**54**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 12 QC Batch ID: WG1664131-3 QC Sample: L2237200-07 Client ID: MS Sample												
Lead, Total	ND	530	528.2	100		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238022

Report Date: 07/22/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-11 QC Batch ID: WG1664025-4 QC Sample: L2238022-01 Client ID: PB-885-17-SS01						
Lead, Total	1.53J	1.44J	mg/kg	NC		20
Total Metals - Mansfield Lab Associated sample(s): 12 QC Batch ID: WG1664131-4 QC Sample: L2237200-07 Client ID: DUP Sample						
Lead, Total	ND	ND	ug/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-01
Client ID: PB-885-17-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/15/22 09:00
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.1		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-02
Client ID: PB-885-18-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 09:10
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.2		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-03
Client ID: PB-885-19-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 09:20
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.2		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-04
Client ID: PB-885-24-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 09:30
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.7		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-05
Client ID: PB-886-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 11:00
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.0		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-06
Client ID: PB-886-17-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 11:10
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.6		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-07
Client ID: PB-886-21-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/15/22 11:20
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.9		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-08
Client ID: PB-886-22-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/15/22 11:30
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.0		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-09
Client ID: PB-886-23-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 11:40
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.6		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-10
Client ID: PB-886-25-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/15/22 11:50
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.1		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-11
Client ID: DUP-45
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.6		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238022

Report Date: 07/22/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-11 QC Batch ID: WG1663682-1 QC Sample: L2238022-01 Client ID: PB-885-17-SS01						
Solids, Total	87.1	89.0	%	2		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238022
Report Date: 07/22/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2238022-01A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2238022-01B	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238022-01C	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238022-01D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2238022-01E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2238022-01F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2238022-02A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2238022-02B	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238022-02C	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238022-02D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2238022-02E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2238022-02F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2238022-03A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2238022-03B	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238022-03C	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238022-03D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2238022-03E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2238022-03F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2238022-04A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2238022-04B	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238022-04C	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2238022-04D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2238022-04E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2238022-04F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2238022-05A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)
L2238022-05B	Vial water preserved	A	NA		2.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238022-05C	Vial water preserved	A	NA		2.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238022-05D	Plastic 2oz unpreserved for TS	A	NA		2.7	Y	Absent		TS(7)
L2238022-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		PB-TI(180)
L2238022-05F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		PA-PAH(14)
L2238022-06A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)
L2238022-06B	Vial water preserved	A	NA		2.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-06C	Vial water preserved	A	NA		2.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-06D	Plastic 2oz unpreserved for TS	A	NA		2.7	Y	Absent		TS(7)
L2238022-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		PB-TI(180)
L2238022-06F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		PA-PAH(14)
L2238022-07A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)
L2238022-07B	Vial water preserved	A	NA		2.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-07C	Vial water preserved	A	NA		2.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-07D	Plastic 2oz unpreserved for TS	A	NA		2.7	Y	Absent		TS(7)
L2238022-07E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		PB-TI(180)
L2238022-07F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		PA-PAH(14)
L2238022-08A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2238022-08B	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-08C	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-08D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2238022-08E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2238022-08F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2238022-09A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238022
Report Date: 07/22/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2238022-09B	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-09C	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-09D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2238022-09E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2238022-09F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2238022-10A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2238022-10B	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-10C	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-10D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2238022-10E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2238022-10F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2238022-11A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2238022-11B	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-11C	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-11D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2238022-11E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2238022-11F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2238022-12A	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238022-12B	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238022-12C	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238022-12D	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		8011(14)
L2238022-12E	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		8011(14)
L2238022-12F	Amber 250ml unpreserved	A	7	7	2.7	Y	Absent		PA-PAHSIM-LVI(7)
L2238022-12G	Amber 250ml unpreserved	A	7	7	2.7	Y	Absent		PA-PAHSIM-LVI(7)
L2238022-12H	Plastic 250ml HNO3 preserved	A	<2	<2	2.7	Y	Absent		PB-6020T-PPB(180)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238022
Project Number:	200.00135.006	**Report Date:**	07/22/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238022
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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238022
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Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238022
Project Number:	200.00135.006	**Report Date:**	07/22/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 7/16/22

ALPHA Job #: L2238022

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193

Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
38022-01	PB-SS5-17-5501	7/15/22	900	S	AV	
-02	PB-SS5-18-5501		910			
-03	PB-SS5-19-5501		920			
-04	PB-SS5-24-5501		930			
-05	PB-SS6-16-5501		1100			
-06	PB-SS6-17-5501		1110			
-07	PB-SS6-21-5501		1120			
-08	PB-SS6-22-5501		1130			
-09	PB-SS6-23-5501		1140			
-10	PB-SS6-25-5501	↓	1150			

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/15/22 1515		7/15/22 1515
	7/15/22 1800		7/15/22 1800
	7/15/22 2140		7/15/22 2140
	7/15/22	GE AML	7/15/22 2350

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(HC) (rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 7/16/22

ALPHA Job #: L2238022

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
38022-11	DUP-45	7/15/22	—	S	ar	
-12	FB-071522-1	7/15/22	1400	W	ar	

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/15/22 15:15		7/15/22 1515
	7/15/22 18:0		7/15/22 1800
	7/15/22		7/16/22 0730

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(I-NJ) (rev. 5-JAN-12)

PADEP Short List Analytical Suites per Table III-5:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

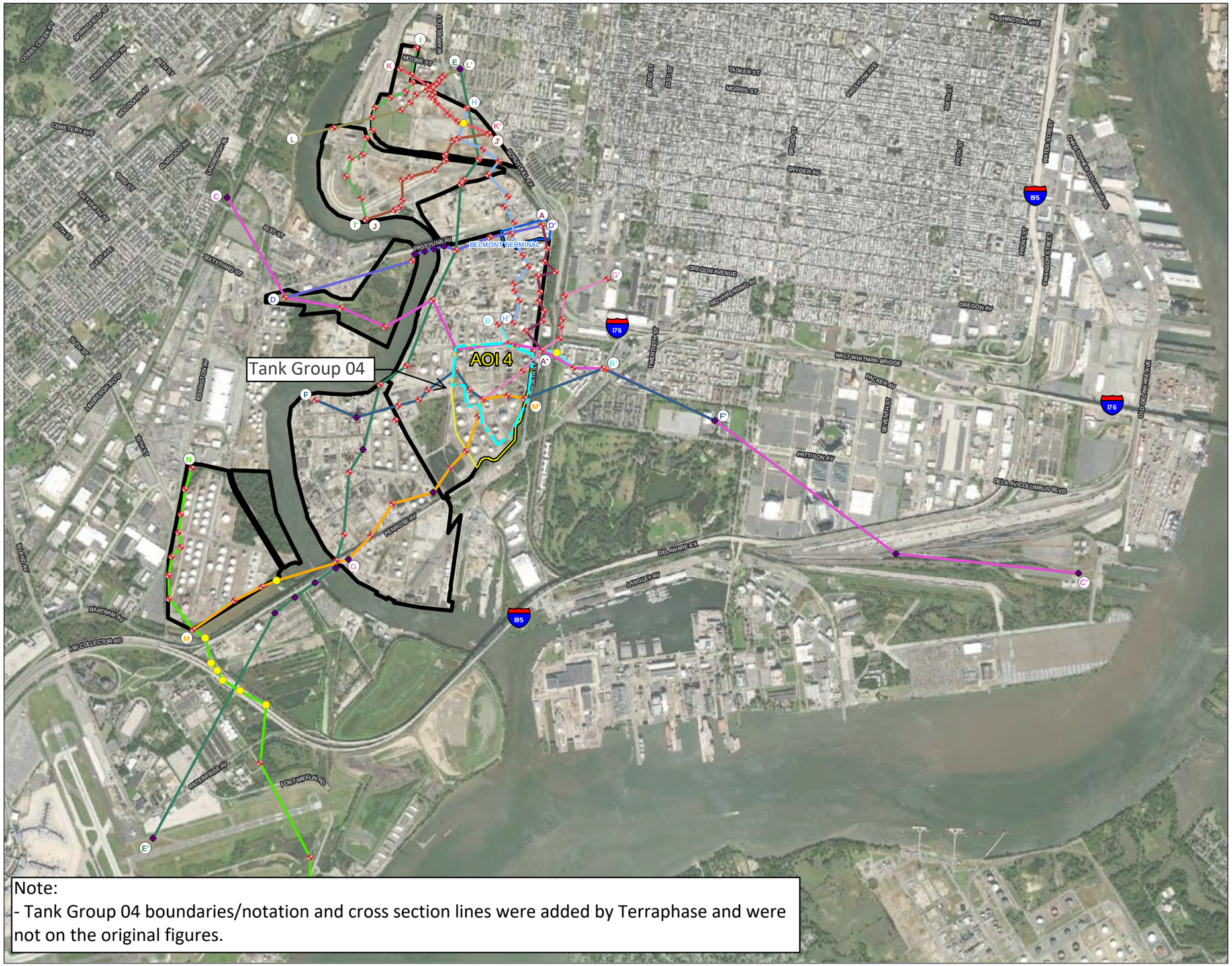
3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

Appendix C

Select Figures from RIRs



Note:
- Tank Group 04 boundaries/notation and cross section lines were added by Terraphase and were not on the original figures.

Figure No.
4-11

Title
STRATIGRAPHIC PROFILE
LOCATION MAP

Client/Project
PHILADELPHIA REFINERY OPERATIONS, A SERIES OF
EVERGREEN RESOURCES GROUP, LLC
FORMER PHILADELPHIA REFINERY
3144 PASSYUNK AVENUE, PHILADELPHIA, PA 19145

Project Location
City of Philadelphia,
Philadelphia County,
Pennsylvania

213402602
Prepared by GWC on 8/3/2021
Technical Review by JKK on 8/3/2021
Independent Review by JLM on 8/18/2021

0 2,500 5,000 Feet
1:30,000 (At original document size of 11x17)

N

LEGEND

STRATIGRAPHIC 'PICK' LOCATION
- SOIL/TEST BORING RECORD
- WELL RECORD
- GREENMAN et al. (1961) HISTORIC RECORD
- BELMONT TERMINAL
- AREA OF INTEREST (AOI) 4 BOUNDARY
- FORMER PHILADELPHIA REFINERY

STRATIGRAPHIC PROFILE
- A - A'
- B - B'
- C - C'
- D - D'
- E - E'
- F - F'
- G - G'
- H- H'
- I - I'
- J - J'
- K - K'
- L - L'
- M - M'
- N - N'

Notes
1. Vertical Datum: North American Vertical Datum of 1988 (NAVD 88)
2. Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
3. Sources: Stantec, Greenman, D.W., Rima, D.R., Lockwood, W.N., and Meisler, H. (1961). Groundwater Resources of the Coastal Plain Area of Southeastern Pennsylvania, Pennsylvania Geological Survey Bulletin W13.
4. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Copyright© 2013 National Geographic Society, i-cubed

Stantec

EVERGREEN

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Tank Group 04

F
WEST

F'
EAST

AOI 7 | AOI 3 | AOI 4 | 26TH STREET | CSX PROPERTY | FORMER PASSYUNK HOMES PROPERTY | SOUTH PHILADELPHIA

C-144D PH-40 C-50D S-69D S-412 S-284D S-365 S-34 S-218D S-121 S-39D PH-DW-3 PH-85

FILL
HOLOCENE ALLUVIUM
PLEISTOCENE ALLUVIUM
UPPER SAND UNIT
UPPER CLAY UNIT
MIDDLE CLAY UNIT
MIDDLE SAND UNIT
LOWER SAND UNIT
LOWER CLAY UNIT
BEDROCK

APPROXIMATE LOCATION AND DIAMETER OF 26TH STREET INTERCEPTING SEWER

Note: Tank Group 04 boundaries/notation were added by Terraphase and were not on the original figures.

Legend:
- June 2018 Water-Level Elevation (Unconfined Aquifer)
- June 2018 Water-Level Elevation (Lower Aquifer)
- June 2018 Interpolated Water-Table Surface
- June 2018 Interpolated Lower Aquifer Surface
- Inferred Geologic Contact
- Inferred Lithologic Contact

Elevation (ft NAVD88)

Distance Along Baseline (ft)

References:

Greenman, D.W., Rima, D.R., Lockwood, W.N., and Meisler, H., 1961, Ground-Water Resources of the Coastal Plain Area of Southeastern Pennsylvania, Pennsylvania Topographic and Geologic Survey Bulletin W-13: 375 pgs.
Tetra Tech (2005). Intermediate and Deep Well Installation and Sampling Report for the Former Defense Supply Center Philadelphia Facility, Philadelphia, Pennsylvania.

Stantec

STRATIGRAPHIC PROFILE INTERPRETED BY ANDREW D. KLINGBEIL, PENNSYLVANIA PROFESSIONAL GEOLOGIST PG005029

GENERALIZED LITHOLOGY GRAPHICS

- Apparent Fill
- Sandy Gravel
- Gravelly Sand
- Sand (incl. trace to little silt/clay/gravel)
- "Muddy" Sand
- Organic-Rich "Mud" (silt/clay, incl. some organic material)
- "Mud" (silt/clay, incl. trace to little sand/gravel)
- Bedrock (incl. saprolite where indicated)
- Peat

Notes:
1. Land surface profile obtained from a 2010 Light Detection and Ranging (LiDAR) elevation model available from the United States Geological Survey (USGS).
2. Lithologic logs for borings PH-40 and PH-85 were obtained from Tables 13 and 14 of Greenman et al., 1961. Geographic locations for those borings were digitized on-screen by Stantec. Lithologic logs, well construction, and survey data for well PH-DW-03 was obtained from Tetra Tech (2005).
3. Water-table and lower aquifer surfaces were interpolated from selected June 2018 gauging data using point kriging.
4. Stantec generalized lithologic data from available borehole logs into 9 categories as indicated for interpretive purposes. "Mud" is utilized in these profiles to generally represent clay/silt mixtures, or clay and silt-rich sandy sediments. Holocene-age muds are colored a darker shade of green so they can be more easily distinguished from older units.
5. Correlation between lithologies and, where applicable, geologic units is based primarily on the straight-line method. Actual conditions between boreholes may vary from what is shown on this profile.
6. North American Vertical Datum of 1988 = NAVD 88
7. Vertical Exaggeration ~ 36 X

Figure 4-12. Stratigraphic Profile F - F'

Philadelphia Refinery Operations
a series of Evergreen Resources Group, LLC
3144 Passyunk Avenue
Philadelphia, PA 19145

Project Number: 213402602

STRAT COLUMN WELL AND WAT LEVEL SM PRC_MASTER_GENERALIZEDLITHOLOGY_SUBSURFACE_PROFILES_V4_PROFILEELIDAR.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 2/9/17

G
SOUTHWEST

G'
NORTHEAST

Tank Group 04

AOI 6 | AOI 3 | AOI 4 | FORMER ARCO/ CSX PROPERTIES | FORMER PASSYUNK HOMES PROPERTY | FORMER DSCP PROPERTY

B-13 | B-133D | B-48D | PH-42 | S-8 | S-22 | S-29 | S-218D | S-119D | ARCO-1D | PH-DW-11 | PH-DW-10 | DSCP-DW-01 | DSCP-DW-06

FILL
HOLOCENE ALLUVIUM
PLEISTOCENE ALLUVIUM
UPPER CLAY UNIT
UPPER SAND UNIT
MIDDLE CLAY UNIT
MIDDLE SAND UNIT
LOWER SAND UNIT
BEDROCK

APPROXIMATE LOCATION AND DIAMETER OF 26TH STREET INTERCEPTING SEWER

Elevation (ft NAVD88)

Distance Along Baseline (ft)

Legend:
- June 2018 Water-Level Elevation (Unconfined Aquifer)
- June 2018 Water-Level Elevation (Lower Aquifer)
- June 2018 Interpolated Water-Table Surface
- June 2018 Interpolated Lower Aquifer Surface
- Inferred Geologic Contact
- Inferred Lithologic Contact

Note: Tank Group 04 boundaries/notation were added by Terraphase and were not on the original figures.

References:

Greenman, D.W., Rima, D.R., Lockwood, W.N., and Meisler, H. (1961). Ground-Water Resources of the Coastal Plain Area of Southeastern Pennsylvania, Pennsylvania Topographic and Geologic Survey Bulletin W-13: 375 pgs.
Tetra Tech (2005). Intermediate and Deep Well Installation and Sampling Report for the Former Defense Supply Center Philadelphia Facility, Philadelphia, Pennsylvania.
Tetra Tech (2007). 2006-2007 Intermediate and Deep Well Installation and Sampling Report for the Former Defense Supply Center Philadelphia Facility, Philadelphia, Pennsylvania.

Stantec

STRATIGRAPHIC PROFILE INTERPRETED BY ANDREW D. KLINGBEIL, PENNSYLVANIA PROFESSIONAL GEOLOGIST PG005029

GENERALIZED LITHOLOGY GRAPHICS

- Apparent Fill
- Sandy Gravel
- Gravelly Sand
- Sand (incl. trace to little silt/clay/gravel)
- "Muddy" Sand
- Organic-Rich "Mud" (silt/clay, incl. some organic material)
- "Mud" (silt/clay, incl. trace to little sand/gravel)
- Bedrock (incl. saprolite where indicated)
- Peat

Notes:
1. Land surface profile obtained from a 2010 Light Detection and Ranging (LiDAR) elevation model available from the United States Geological Survey (USGS).
2. Lithologic log for boring PH-42 was obtained from Tables 13 and 14 of Greenman et al. (1961). Geographic location for the boring was digitized on-screen by Stantec. Lithologic logs, well construction, and survey data for wells DSCP-DW-01, DSCP-DW-06, PH-DW-10, and PH-DW-11 were obtained from Tetra Tech (2005; 2007).
3. Water-table and lower aquifer surfaces were interpolated from selected June 2018 gauging data using point kriging.
4. Stantec generalized lithologic data from available borehole logs into 9 categories as indicated for interpretive purposes. "Mud" is utilized in these profiles to generally represent clay/silt mixtures, or clay and silt-rich sandy sediments. Holocene-age muds are colored a darker shade of green so they can be more easily distinguished from older units.
5. Correlation between lithologies and, where applicable, geologic units is based primarily on the straight-line method. Actual conditions between boreholes may vary from what is shown on this profile.
6. North American Vertical Datum of 1988 = NAVD 88
7. Vertical Exaggeration ~ 32 X

Figure 4-13. Stratigraphic Profile G - G'

Philadelphia Refinery Operations
a series of Evergreen Resources Group, LLC
3144 Passyunk Avenue
Philadelphia, PA 19145

Project Number: 213402602

STRAT COLUMN WELL AND WAT LEVEL SM PRC_MASTER_GENERALIZEDLITHOLOGY_SUBSURFACE_PROFILES_V4_PROFILEELIDAR.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 2/13/17

AOI 10

AOI 2

AOI 1

AOI 4

AOI 3

AOI 7

Tank Group 04

Note: Tank Group 04 boundaries/notation were added by Terraphase and were not on the original figures.

POLLACK ST

HARTRANFT ST

SCHUYLKILL EXP

FORMER DSCP PROPERTY

POLLOCK STREET / PACKER AVENUE SEWER

MOYAMENSING RD

HOMESTEAD ST

26TH STREET INTERCEPTING SEWER

PENROSE AVENUE SEWER

PATTISON AVE

PENROSE FERRY RD

PENROSE AVE

SCHUYLKILL RIVER

SCHUYLKILL AVE

LANIER AVE

8TH ST

10TH ST

16TH ST

15TH ST

13TH ST

11TH ST

7TH ST

5TH ST

22ND ST

20TH ST

26TH ST

"N" AVE

"M" AVE

"L" AVE

"J" AVE

"H" AVE

"G" AVE

CAPRI DR

GEARY ST

DAVINCI DR

VERONA DR

SORRENTO CT

TREVI CT

RESERVE DR

SIENNA CT

TUSCANY DR

PRIMA CT

SHEAFF LN

Notes

1. Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet North American Vertical Datum of 1988 (NAVD 88)
2. Sources: Stantec and Defense Logistics Agency (DLA)
3. Labels denote groundwater elevation in feet. Depth to groundwater was measured in each well to the nearest one-hundredth of a foot using an interface probe.
4. Contour Interval = 0.5 feet
5. Gauging data for DSCP property wells obtained from the DLA. Rigorous evaluation of that data not performed by Stantec.
6. Groundwater elevation data was interpolated using block kriging with a linear variogram model in Surfer.
7. Aerial & Topo: Service Layer Credits: Image courtesy of USGS Earthstar Geographics SIO © 2017 Microsoft Corporation
Copyright:© 2013 National Geographic Society, i-cubed
Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

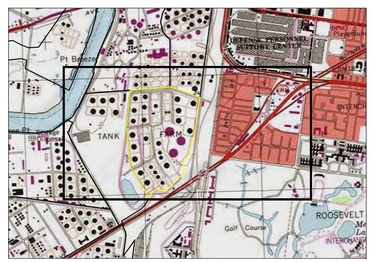
Legend

- 2016 Well Gauging Data - Unconfined Aquifer
- 2016 WATER-TABLE ELEVATION (ft NAVD 88)
- APPROXIMATE LOCATION OF PHILADELPHIA WATER DEPARTMENT SEWER
- LIMITS OF UNCONFINED AQUIFER WELL CONTROL
- AREA OF INTEREST (AOI)
- AOI 4
- FORMER DSCP PROPERTY
- NM — NOT MEASURED
- S-11 (3.52) — WELLS NOT USED FOR GROUNDWATER CONTOURING
- 1.46' — GROUNDWATER ELEVATION (FEET NAVD 88)

0 200 400 Feet

1:2,400 (At original document size of 24x36)

N



Project Location 213402602

City of Philadelphia, Philadelphia County, Pennsylvania

Prepared by GWC on 1/12/2017
Technical Review by ADK on 2/23/2017
Independent Review by JKD on 3/6/2017

Client/Project

PHILADELPHIA REFINERY OPERATIONS, A SERIES OF EVERGREEN RESOURCES GROUP, LLC
PHILADELPHIA REFINING COMPLEX
3144 PASSYUNK AVENUE, PHILADELPHIA, PA 19145

Figure No.

5-4

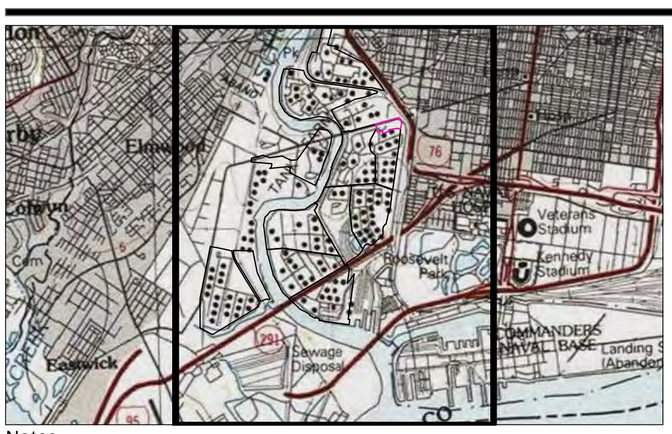
Title

MAY 2016 WATER-TABLE ELEVATION - INCLUDING SYNOPTIC DSCP GAUGING DATA

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Tank Group 04

Note: Tank Group 04 boundaries/notation were added by Terraphase and were not on the original figures.



Notes

1. Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
   North American Vertical Datum of 1988 (NAVD 88)
2. Sources: Stantec, Philadelphia Gas Works (PGW), and Defense Logistics Agency (DLA)
3. Depth to groundwater and LNAPL, where present, were measured in each well to the nearest one-hundredth of a foot using an interface probe.
4. FT NAVD88 = feet referenced to the North American Vertical Datum of 1988
5. Groundwater elevation data was interpolated using point kriging with a linear variogram model in Surfer to produce a surface model. The model is interpreted to be a reasonable approximation of the water-table elevation within the limits of the available well data.
6. Aerial & Topo Copyright:© 2013 National Geographic Society, i-cubed
   © 2018 Microsoft Corporation © 2018 DigitalGlobe ©CNES (2018) Distribution Airbus DS
   Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

LEGEND

- WELL UTILIZED FOR THE JUNE 2018 WATER-TABLE ELEVATION SURFACE
- APPROXIMATE LOCATION OF PHILADELPHIA WATER DEPARTMENT SEWER
- APPROXIMATE LOCATION OF RAMBO CREEK STORM SEWER
- PHILADELPHIA GAS WORKS (PGW) PASSYUNK FACILITY
- VERIZON SOUTH DISTRICT WORK CENTER (SDWC) PROPERTY
- AREA OF INTEREST (AOI) BOUNDARY
- BELMONT TERMINAL
- APPROXIMATE LIMITS OF WATER-TABLE WELL CONTROL

JUNE 2018 WATER-TABLE ELEVATION
FT NAVD88

- 14 - 16
- 12 - 14
- 10 - 12
- 8 - 10
- 6 - 8
- 4 - 6
- 2 - 4
- 0 - 2
- -2 - 0
- -4 - -2
- -6 - -4
- -8 - -6
- -10 - -8

0 500 1,000 1,500 Feet

1:8,100 (At original document size of 24x36)

N

Figure No.
2-3-29

Title
JUNE 2018 WATER-TABLE ELEVATION

Client/Project
PHILADELPHIA REFINERY OPERATIONS, A SERIES OF
EVERGREEN RESOURCES GROUP, LLC
FORMER PHILADELPHIA REFINERY
3144 PASSYUNK AVENUE, PHILADELPHIA, PA 19145

Project Location
City of Philadelphia,
Philadelphia County,
Pennsylvania

213402454
Prepared by ADK on 8/14/2018
Technical Review by ANP on 9/20/2018
Independent Review by JLM on 10/19/2018

Stantec

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Appendix D

Soil Boring Logs, Monitoring Well Installation Logs, and Groundwater Stabilization Logs

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-191-01
		Page 1 of 1
Client: PESRM		Date Start: 12/09/2021
Project Name: PES Refinery		Date Finish: 12/09/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Black sandy FILL with GRAVEL	
2					
3					
4					
5	PB191-01		57.2		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
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20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-191-02
		Page 1 of 1
Client: PESRM		Date Start: 12/09/2021
Project Name: PES Refinery		Date Finish: 12/09/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Black sandy FILL	
2					
3					
4	PB191-02		44.7		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
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18					
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20					
21					
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23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-191-03
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB191-03	4.30	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Brown SILT	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-191-04
		Page 1 of 1
Client: PESRM		Date Start: 12/09/2021
Project Name: PES Refinery		Date Finish: 12/09/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 1.5-2.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Black sandy FILL	
2	PB191-04		130.2		
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
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18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-191-05
		Page 1 of 1
Client: PESRM		Date Start: 12/09/2021
Project Name: PES Refinery		Date Finish: 12/09/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.5-4.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown sandy FILL	
2					
3					
4	PB191-05		15.7		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-191-06
		Page 1 of 1
Client: PESRM		Date Start: 12/09/2021
Project Name: PES Refinery		Date Finish: 12/09/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 0.5-1.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB191-06		42.9	0-5.0' Black sandy FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-191-07
		Page 1 of 1
Client: PESRM		Date Start: 12/09/2021
Project Name: PES Refinery		Date Finish: 12/09/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Black SILT with brown SAND	
2					
3					
4					
5	PB191-07		50.7		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
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23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-191-08
		Page 1 of 1
Client: PESRM		Date Start: 12/09/2021
Project Name: PES Refinery		Date Finish: 12/09/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown/gray SILT	
2					
3					
4					
5	PB191-08		101.5		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-826-01
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB826-01		0.0 0.0	0-5.0' Tan silty FILL with GRAVEL	
2			0.0 0.0		
3			0.0 0.0		
4			0.0 0.0		
5			0.0 0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
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18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-826-02
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB826-02		0.0 0.0	0-5.0' Tan silty FILL with GRAVEL	
2			0.0 0.0		
3			0.0 0.0		
4			0.0 0.0		
5			0.0 0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
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16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-826-03
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB826-03		0.0 0.0	0-5.0' Tan silty FILL with GRAVEL	
2			0.0 0.0		
3			0.0 0.0		
4			0.0 0.0		
5			0.0 0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-826-04
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB826-04		0.0 0.0	0-5.0' Tan silty FILL with GRAVEL	
2			0.0 0.0		
3			0.0 0.0		
4			0.0 0.0		
5			0.0 0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-826-05
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB826-05		0.0 0.0	0-5.0' Tan silty FILL with GRAVEL	
2			0.0 0.0		
3			0.0 0.0		
4			0.0 0.0		
5			0.0 0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-826-06
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB826-06		0.0 0.0	0-5.0' Tan silty FILL with GRAVEL	
2			0.0 0.0		
3			0.0 0.0		
4			0.0 0.0		
5			0.0 0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-826-07
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB826-07		0.0 0.0	0-5.0' Tan silty FILL with GRAVEL	
2			0.0 0.0		
3			0.0 0.0		
4			0.0 0.0		
5			0.0 0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
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20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-826-08
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB826-08		0.0 0.0 0.0 0.0 16.2 44.7 50.2 60.3 85.6 122.8	0-5.0' Brown SILT	
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-826-09
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1			0.0	0-5.0' Brown SILT	
			0.0		
2			0.0		
			0.0		
3			0.0		
			0.0		
4			17.2		
			39.2		
5	PB826-09		185.6		
			252.3		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-826-10
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB826-10		0.0 0.0	0-5.0' Tan silty FILL with GRAVEL	
2			0.0 0.0		
3			0.0 0.0		
4			0.0 0.0		
5			0.0 0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
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15					
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20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-826-11
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB826-11	4.80	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Tan silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
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20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-826-12
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB826-12	4.00	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Tan silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-826-13
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB826-13	5.00	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Tan silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-826-14
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB826-14	3.60	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Tan silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-826-15
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB826-15	5.00	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Brown SILT with some coarse SAND	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
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11					
12					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-826-16
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB826-16	4.50	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Brown SILT	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
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12					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-840-01
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB840-01		0.0	0-5.0' Brown gravelly SAND	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-840-02
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB840-02		0.0	0-5.0' Brown silty FILL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
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21					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-840-03
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1			0.0	0-5.0' Gray silty FILL	
2			9.2		
3			5.7		
4			2.2		
5	PB840-03		35.7		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-840-04
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB840-04		0.0	0-5.0' Brown sandy FILL with GRAVEL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-840-05
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB840-05		0.0	0-5.0' Brown sandy FILL with GRAVEL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-840-06
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown/gray silty FILL	
2			10.2		
3			0.0		
4			5.2		
5	PB840-06		0.2		
6			70.1	**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
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16					
17					
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20					
21					
22					
23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-840-07
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB840-07		0.0	0-5.0' Brown silty FILL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
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12					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-840-08
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB840-08		0.0	0-5.0' Gray silty FILL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
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10					
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21					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-840-09
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1			27.2	0-4.0' Brown SILT	
2			0.0		
3			17.8		
4			25.3		
5	PB840-09		282.8	4.0-5.0' Brown fine SAND	
6				**END OF BORING (5 ft.)**	
7					
8					
9					
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21					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-840-10
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB840-10		0.0	0-5.0' Brown/gray SILT	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
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21					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-840-11
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 2.5-3.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB840-11		0.0	0-5.0' Brown silty FILL	
2			19.2		
3			299.8		
4			65.6		
5			78.1		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
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21					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-840-12
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB840-12		0.0	0-5.0' Brown silty FILL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-840-13
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB840-13		0.0	0-5.0' Brown sandy FILL with GRAVEL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
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11					
12					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-840-14
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB840-14		0.0	0-5.0' Brown sandy FILL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-840-15
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB840-15		0.0	0-5.0' Brown sandy FILL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-840-16
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB840-16		0.0	0-5.0' Brown sandy FILL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-841-01
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB841-01		0.0	0-5.0 Black course sandy FILL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-841-02
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB841-02		0.0	0-5.0 Black course sandy FILL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-841-03
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB841-03		0.0	0-5.0 Black sandy FILL with GRAVEL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-841-04
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB841-04		0.0	0-5.0 Black course SAND	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-841-05
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB841-05		0.0	0-4.0 Brown sandy FILL	
2			0.0		
3			0.0		
4			0.0		
5			0.0	4.0-5.0 Brown SILT	
6				**END OF BORING (5 ft.)**	
7					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-841-06
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB841-06		0.0	0-5.0 Brown sandy FILL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-841-07
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB841-07		0.0	0-5.0 Light brown silty SAND	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-841-08
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB841-08		0.0	0-4.0 Brown sandy FILL	
2			0.0		
3			0.0		
4			0.0		
5			0.0	4.0-5.0 Brown SILT	
6				**END OF BORING (5 ft.)**	
7					
8					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-841-09
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB841-09		0.0	0-5.0 Brown sandy FILL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-841-10
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1			0.0	0-4.0 Brown sandy FILL	
2			0.0		
3			0.0		
4			9.3		
5	PB841-10		12.5	4.0-5.0 Brown silty fine SAND	
6				**END OF BORING (5 ft.)**	
7					
8					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-841-11
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1			0.0	0-4.0 Brown sandy FILL	
2			0.0		
3			0.0		
4			0.0		
5	PB841-11		0.7	4.0-5.0 Brown SILT	
6				**END OF BORING (5 ft.)**	
7					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-841-12
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB841-12		0.0	0-4.0 Brown sandy FILL with GRAVEL	
2			0.0		
3			0.0		
4			0.0		
5			0.0	4.0-5.0 Brown SILT	
6				**END OF BORING (5 ft.)**	
7					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-841-13
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB841-13		0.0	0-5.0 Brown sandy FILL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-841-14
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB841-14		0.0	0-5.0 Brown sandy FILL with SILT	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-843-01
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1			0.0	0-4.0 Brown sandy FILL with GRAVEL	
2			0.0		
3			0.0		
4			28.7		
5	PB843-01		14.6	4.0-5.0 Brown sandy FILL with SILT	
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-843-02
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB843-02		0.0	0-5.0 Brown sandy FILL with GRAVEL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-843-03
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB843-03		0.0	0-5.0 Brown sandy FILL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-843-04
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB843-04		0.0	0-5.0 Brown sandy FILL with SILT	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
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10					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-843-05
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1			8.4	0-3.0 Brown sandy FILL	
2			3.7		
3			11.0		
4	PB843-05		0.0	3.0-5.0 Gray silty FILL	
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-843-06
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1			0.7	0-4.0 Brown sandy FILL	
2			2.1		
3			9.5		
4			10.2		
5	PB843-06		23.5	4.0-5.0 Brown SILT	
6				**END OF BORING (5 ft.)**	
7					
8					
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23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-843-07
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 2.0-2.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB843-07		0.0	0-2.0 Brown sandy FILL with GRAVEL	
2			58.7		
3			20.7	2.0-3.0 Brown/black sandy FILL with SILT	
4			13.2	3.0-5.0 Brown/black SILT	
5			12.7		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-843-08
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB843-08		0.0	0-3.0 Brown sandy FILL with GRAVEL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-843-09
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1			0.0	0-2.0 Brown sandy FILL with GRAVEL	
2			0.0		
3			7.8	2.0-4.0 Gray sandy SILT	
4			29.2		
5	PB843-09		0.0	4.0-5.0 Brown sandy FILL	
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
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12					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-843-10
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB843-10		0.0	0-2.0 Brown sandy FILL	
2			10.4		
3			14.2	2.0-5.0 Gray FILL with coarse SAND	
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
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22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-843-11
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1			0.0	0-5.0 Brown/gray SILT with SAND	
2			0.3		
3			0.5		
4			0.7		
5	PB843-11		2.5		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
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23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-843-12
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1			1.0	0-2.0 Brown sandy FILL with GRAVEL	
2			5.8		
3			8.4	2.0-4.0 Gray SILT with some SAND	
4			11.3		
5	PB843-12		2.3	4.0-5.0 Brown SILT with SAND	
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
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20					
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22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-843-13
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB843-13		0.0	0-5.0 Brown sandy FILL with SILT	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
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14					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-843-14
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1			0.0	0-3.0 Brown sandy FILL with GRAVEL	
2			0.0		
3			2.8		
4			8.3	3.0-5.0 Gray SILT with fine SAND	
5	PB843-14		7.5		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
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16					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-843-15
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1			0.0	0-4.0 Brown sandy FILL	
2			0.0		
3			0.0		
4			5.8		
5	PB843-15		7.9	4.0-5.0 Gray SILT with fine SAND	
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
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16					
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22					
23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-843-16
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB843-16		0.0	0-4.0 Brown silty FILL with GRAVEL	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
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14					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-843-17
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1			0.0	0-3.0 Brown sandy FILL with SILT	
2			0.5		
3			0.2		
4			2.8	3.0-5.0 Gray SILT with some SAND	
5	PB843-17		3.5		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
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16					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-847-01
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown sandy SILT	
2					
3					
4	PB847-01		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
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14					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-847-02
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown sandy SILT	
2					
3					
4	PB847-02		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
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18					
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20					
21					
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23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-847-03
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown sandy SILT	
2					
3					
4	PB847-03		321.2		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-847-04
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown sandy SILT	
2					
3					
4	PB847-04		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-847-05
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown sandy SILT	
2					
3					
4					
5	PB847-05		192.3		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-847-06
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.5-4.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown sandy SILT	
2					
3					
4	PB847-06		64.1		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
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21					
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23					
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25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-847-07
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown sandy SILT	
2					
3					
4					
5	PB847-07		394.1		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-847-08
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown sandy SILT	
2					
3					
4	PB847-08		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-847-09
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown sandy SILT	
2					
3					
4					
5	PB847-09		130.2		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-847-10
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown sandy SILT	
2					
3					
4	PB847-10		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-847-11
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB847-11		0.0	0-5.0' Brown sandy SILT	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-847-12
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown sandy SILT	
2					
3					
4					
5	PB847-12		121.5		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-847-13
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Black/brown sandy SILT	
2					
3					
4					
5	PB847-13		411.6		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-847-14
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.5-4.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Black/brown sandy SILT	
2					
3					
4	PB847-14		213.2		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-847-15
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Black/brown sandy SILT	
2					
3					
4					
5	PB847-15		292.5		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-847-16
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB847-16		0.0	0-5.0' Black/brown sandy SILT	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-847-17
		Page 1 of 1
Client: PESRM		Date Start: 07/8/2022
Project Name: PES Refinery		Date Finish: 07/8/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.5-4.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Black/brown sandy SILT	
2					
3					
4	PB847-17		636.3		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-848-01
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown sandy SILT	
2					
3					
4	PB848-01		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-848-02
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown sandy SILT	
2					
3					
4	PB848-02		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-848-03
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown sandy SILT	
2					
3					
4	PB848-03		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-848-04
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown sandy SILT	
2					
3					
4					
5	PB848-04		1321		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I

Soil Boring Log

Boring No.: PB-848-05

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Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown sandy SILT	
2					
3					
4	PB848-05		123.2		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-848-06
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown sandy SILT	
2					
3					
4					
5	PB848-06		1202		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-848-07
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown sandy SILT	
2					
3					
4					
5	PB848-07		819.3		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-848-08
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown SILT	
2					
3					
4					
5	PB848-08		19.3		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-848-09
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown sandy SILT	
2					
3					
4					
5	PB848-09		10.1		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-848-10
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown sandy SILT	
2					
3					
4					
5	PB848-10		165.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-848-11
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown sandy SILT	
2					
3					
4					
5	PB848-11		1609		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-848-12
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown sandy SILT	
2					
3					
4					
5	PB848-12		1421		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-848-13
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-3.0 Brown SILT	
2					
3					
4				3.0-5.0 Black CLAY	
5	PB848-13		192.2		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-848-14
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-3.0 Brown SILT	
2					
3					
4				3.0-5.0 Black CLAY	
5	PB848-14		14.9		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-848-15
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-3.0 Brown SILT	
2					
3					
4				3.0-5.0 Black CLAY	
5	PB848-15		1682		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-848-16
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown sandy SILT	
2					
3					
4	PB848-16		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-848-17
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Black FILL	
2					
3					
4	PB848-17		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-848-18
		Page 1 of 1
Client: PESRM		Date Start: 07/11/2022
Project Name: PES Refinery		Date Finish: 07/11/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Black FILL	
2					
3					
4					
5	PB848-18		1381		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-881-01
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB881-01		0.0	0-5.0 Brown sandy SILT	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-881-02
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB881-02		0.0	0-5.0 Brown sandy SILT	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-881-03
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB881-03		0.0	0-5.0 Brown sandy SILT	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-881-04
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 2.0-2.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB881-04		0.0	0-5.0 Brown SILT	
2			61.3		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-881-05
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB881-05		0.0	0-5.0 Brown SILT	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-881-06
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB881-06		0.0	0-5.0 Brown sandy SILT	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
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18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-881-07
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB881-07		0.0	0-5.0 Brown sandy SILT with some gravel	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
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17					
18					
19					
20					
21					
22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-881-08
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown/black sandy SILT	
2			0.0		
3			0.0		
4			14.1		
5	PB881-08		112.3		
6			101.2	**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
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16					
17					
18					
19					
20					
21					
22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-881-09
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB881-09		0.0	0-5.0 Brown sandy SILT	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
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14					
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16					
17					
18					
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20					
21					
22					
23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-881-10
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB881-10		0.0	0-5.0 Brown sandy SILT with some gravel	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-881-11
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB881-11		0.0	0-5.0 Brown sandy SILT	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
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16					
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18					
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20					
21					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-881-12
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB881-12		0.0	0-5.0 Brown sandy SILT	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-881-13
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB881-13		0.0	0-5.0 Brown sandy SILT	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-881-14
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB881-14		0.0	0-5.0 Brown sandy SILT	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-881-15
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown SILT	
2			0.0		
3			0.0		
4			13.1		
5	PB881-15		152.3		
			161.8		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-881-16
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB881-16		0.0	0-5.0 Brown sandy SILT	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-881-17
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB881-17		0.0	0-5.0 Brown sandy SILT	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
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20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-881-18
		Page 1 of 1
Client: PESRM		Date Start: 07/12/2022
Project Name: PES Refinery		Date Finish: 07/12/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB881-18		0.0	0-5.0 Brown sandy SILT	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-01
		Page 1 of 1
Client: PESRM		Date Start: 07/29/2022
Project Name: PES Refinery		Date Finish: 07/29/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB882-01	4.25	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Orange course SAND	
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-02
		Page 1 of 1
Client: PESRM		Date Start: 07/29/2022
Project Name: PES Refinery		Date Finish: 07/29/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB882-02	4.75	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Orange course SAND	
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
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18					
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21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-03
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB882-03		0.0 0.0	0-5.0' Brown tan sandy SILT	
2			0.0 0.0		
3			0.0 0.0		
4			0.0 0.0		
5			0.0 0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-04
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB882-04		0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Brown tan sandy SILT	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
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20					
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22					
23					
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25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-05
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB882-05		0.0 0.0	0-5.0' Brown tan sandy SILT	
2			0.0 0.0		
3			0.0 0.0		
4			0.0 0.0		
5			0.0 0.0		
6				**END OF BORING (5 ft.)**	
7					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-06
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB882-06		0.0 0.0	0-5.0' Brown tan sandy SILT	
2			0.0 0.0		
3			0.0 0.0		
4			0.0 0.0		
5			0.0 0.0		
6				**END OF BORING (5 ft.)**	
7					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-07
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB882-07		0.0 0.0	0-5.0' Brown tan sandy SILT	
2			0.0 0.0		
3			0.0 0.0		
4			0.0 0.0		
5			0.0 0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-08
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1			0.0 0.0	0-5.0' Brown sandy SILT	
2			0.0 13.1		
3			161.3 151.4		
4			130.6 131.8		
5	PB882-08		1228 1080		
6				**END OF BORING (5 ft.)**	
7					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-09
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.5-4.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB882-09		0.0 0.0 12.1 139.3 200.8 222.6 402.1 404.3 300.2 322.2	0-5.0' Brown sandy SILT	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-10
		Page 1 of 1
Client: PESRM		Date Start: 07/30/2021
Project Name: PES Refinery		Date Finish: 07/30/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Course SAND with SILT	
2					
3					
4					
5	PB882-10		679.1		
6				**END OF BORING (5 ft.)**	
7					
8					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-11
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB882-11		0.0 0.0	0-5.0' Brown sandy SILT	
2			0.0 0.0		
3			0.0 0.0		
4			0.0 0.0		
5			0.0 0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
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12					
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20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-12
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB882-12		0.0 0.0	0-5.0' Brown sandy SILT	
2			0.0 0.0		
3			0.0 0.0		
4			0.0 0.0		
5			0.0 0.0		
6				**END OF BORING (5 ft.)**	
7					
8					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-13
		Page 1 of 1
Client: PESRM		Date Start: 07/13/2022
Project Name: PES Refinery		Date Finish: 07/13/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB882-13		0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Brown sandy SILT	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
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11					
12					
13					
14					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-14
		Page 1 of 1
Client: PESRM		Date Start: 07/30/2021
Project Name: PES Refinery		Date Finish: 07/30/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown SILT	
2					
3					
4	PB882-14		83.2		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-15
		Page 1 of 1
Client: PESRM		Date Start: 07/30/2021
Project Name: PES Refinery		Date Finish: 07/30/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown/gray SILT	
2					
3					
4	PB882-15		1.2		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
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11					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-16
		Page 1 of 1
Client: PESRM		Date Start: 07/30/2021
Project Name: PES Refinery		Date Finish: 07/30/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown SILT	
2					
3					
4	PB882-16		507.3		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
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14					
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17					
18					
19					
20					
21					
22					
23					
24					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-17
		Page 1 of 1
Client: PESRM		Date Start: 07/30/2021
Project Name: PES Refinery		Date Finish: 07/30/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown/gray SILT	
2					
3					
4	PB882-17		13.3		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
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25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-18
		Page 1 of 1
Client: PESRM		Date Start: 07/30/2021
Project Name: PES Refinery		Date Finish: 07/30/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown/gray SILT	
2					
3					
4	PB882-18		1.4		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
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25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-19
		Page 1 of 1
Client: PESRM		Date Start: 07/30/2021
Project Name: PES Refinery		Date Finish: 07/30/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown SILT with SAND	
2					
3					
4	PB882-19		12.7		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
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20					
21					
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23					
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Ransom Consulting, I	Soil Boring Log	Boring No.: PB-882-20
		Page 1 of 1
Client: PESRM		Date Start: 07/30/2021
Project Name: PES Refinery		Date Finish: 07/30/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown/gray SILT	
2					
3					
4	PB882-20		35.8		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
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17					
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20					
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23					
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25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-01
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB883-01	4.50	0.0	0.0-5.0' Brown sandy SILT	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6			0.0	**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
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18					
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21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-02
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT	
1			0.0		
			0.0		
2		4.50	0.0		
			0.0		
3			0.0		
	PB883-02		0.0		
4			0.0		
			0.0		
5			0.0		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
14					
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17					
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19					
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21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-03
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT	
1			0.0		
			0.0		
2		4.50	0.0		
			0.0		
3			0.0		
	PB883-03		0.0		
4			0.0		
			0.0		
5			0.0		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-04
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT	
1			0.0		
			0.0		
2		5.00	0.0		
			0.0		
3			0.0		
			14.1		
4			126.2		
	PB883-04		135.1		
5			100.2		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-05
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT with little GRAVEL	
1			0.0		
			0.0		
2		4.50	0.0		
			0.0		
3			0.0		
	PB883-05		0.0		
4			0.0		
			0.0		
5			0.0		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
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15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-06
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT	
1			1.6		
			1.7		
2		4.50	0.0		
			13.2		
3			13.1		
			132.1		
4			1011.1		
	PB883-06		1202		
5			422.2		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
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18					
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20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-07
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT	
1			0.0		
			0.0		
2		5.00	0.0		
			0.0		
3			0.0		
	PB883-07		0.0		
4			0.0		
			0.0		
5			0.0		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
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20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-08
		Page 1 of 1
Client: PESRM		Date Start: 12/08/2021
Project Name: PES Refinery		Date Finish: 12/08/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0.0-5.0' Brown/gray SILT with fine SAND	
2					
3					
4	PB883-08		10.5		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
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18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-09
		Page 1 of 1
Client: PESRM		Date Start: 12/08/2021
Project Name: PES Refinery		Date Finish: 12/08/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0.0-5.0' Brown/gray SILT with fine SAND	
2					
3					
4					
5	PB883-09		30.9		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-10
		Page 1 of 1
Client: PESRM		Date Start: 12/08/2021
Project Name: PES Refinery		Date Finish: 12/08/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0.0-5.0' Brown/brown/gray SILT	
2					
3					
4	PB883-10		23.7		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-11
		Page 1 of 1
Client: PESRM		Date Start: 12/08/2021
Project Name: PES Refinery		Date Finish: 12/08/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.5-4.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0.0-5.0' Black/brown SILT	
2					
3					
4	PB883-11		200.2		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-12
		Page 1 of 1
Client: PESRM		Date Start: 12/08/2021
Project Name: PES Refinery		Date Finish: 12/08/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0.0-5.0' Light brown SILT	
2					
3					
4	PB883-12		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-13
		Page 1 of 1
Client: PESRM		Date Start: 12/08/2021
Project Name: PES Refinery		Date Finish: 12/08/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0.0-5.0' Black/gray SILT	
2					
3					
4					
5	PB883-13		43.3		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-14
		Page 1 of 1
Client: PESRM		Date Start: 12/08/2021
Project Name: PES Refinery		Date Finish: 12/08/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0.0-5.0' Gray SILT	
2					
3					
4	PB883-14		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-15
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT	
1			0.0		
			0.0		
2		5.00	0.0		
			0.0		
3			0.0		
	PB883-15		0.0		
4			0.0		
			0.0		
5			0.0		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-16
		Page 1 of 1
Client: PESRM		Date Start: 12/08/2021
Project Name: PES Refinery		Date Finish: 12/08/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0.0-5.0' Brown SILT with fine SAND	
2					
3					
4	PB883-16		5.7		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-17
		Page 1 of 1
Client: PESRM		Date Start: 12/08/2021
Project Name: PES Refinery		Date Finish: 12/08/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0.0-5.0' Brown FILL	
2					
3					
4	PB883-17		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-18
		Page 1 of 1
Client: PESRM		Date Start: 12/08/2021
Project Name: PES Refinery		Date Finish: 12/08/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0.0-5.0' Brown sandy FILL	
2					
3					
4	PB883-18		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-19
		Page 1 of 1
Client: PESRM		Date Start: 12/08/2021
Project Name: PES Refinery		Date Finish: 12/08/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0.0-5.0' Black sandy FILL	
2					
3					
4					
5	PB883-19		72.8		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-20
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB883-20	5.00	0.0	0.0-5.0' Brown sandy SILT	
2			0.0		
3			0.0		
4			0.0		
5			0.0		
6			0.0		
7			0.0		
8			0.0		
9			0.0		
10			0.0		
11			0.0		
12			0.0		
13			0.0		
14			0.0		
15			0.0		
16			0.0		
17			0.0		
18			0.0		
19			0.0		
20			0.0		
21			0.0		
22			0.0		
23			0.0		
24			0.0		
25			0.0		
			0.0		
			0.0	**END OF BORING (5 ft.)**	

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-21
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT	
1			0.0		
			0.0		
2		5.00	0.0		
			0.0		
3			0.0		
	PB883-21		0.0		
4			0.0		
			0.0		
5			0.0		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-22
		Page 1 of 1
Client: PESRM		Date Start: 12/08/2021
Project Name: PES Refinery		Date Finish: 12/08/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0.0-5.0' Gray SILT with CLAY	
2					
3					
4	PB883-22		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-23
		Page 1 of 1
Client: PESRM		Date Start: 12/08/2021
Project Name: PES Refinery		Date Finish: 12/08/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0.0-5.0' Black sandy FILL with STONE	
2					
3					
4					
5	PB883-23		62.3		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-883-24
		Page 1 of 1
Client: PESRM		Date Start: 12/08/2021
Project Name: PES Refinery		Date Finish: 12/08/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0.0-5.0' Gray/brown SILT	
2					
3					
4	PB883-23		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-01
		Page 1 of 1
Client: PESRM		Date Start: 12/03/2021
Project Name: PES Refinery		Date Finish: 12/03/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB884-01		0.0	0-1.0 Topsoil	
2				1.0-5.0 Brown SILT	
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-02
		Page 1 of 1
Client: PESRM		Date Start: 12/03/2021
Project Name: PES Refinery		Date Finish: 12/03/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB884-02		0.0	0-1.0 Brown SAND and SILT	
2				1.0-5.0 Light gray/brown SAND and SILT	
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-03
		Page 1 of 1
Client: PESRM		Date Start: 12/03/2021
Project Name: PES Refinery		Date Finish: 12/03/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB884-03		0.0	0-2.0 FILL	
2					
3				2.0-5.0 Light brown SILT	
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
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18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-04
		Page 1 of 1
Client: PESRM		Date Start: 12/03/2021
Project Name: PES Refinery		Date Finish: 12/03/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB884-04		0.0	0-1.0 Topsoil with some GRAVEL	
2				2.0-5.0 Brown/gray SILT with some CLAY	
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-05
		Page 1 of 1
Client: PESRM		Date Start: 12/06/2021
Project Name: PES Refinery		Date Finish: 12/06/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Sandy FILL with STONE	
2					
3					
4	PB884-05		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-06
		Page 1 of 1
Client: PESRM		Date Start: 12/06/2021
Project Name: PES Refinery		Date Finish: 12/06/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.5-4.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown/gray SILT with SAND	
2					
3					
4	PB884-06		23.2		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-07
		Page 1 of 1
Client: PESRM		Date Start: 12/06/2021
Project Name: PES Refinery		Date Finish: 12/06/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Sandy FILL with STONE	
2					
3					
4	PB884-07		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-08
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1			0.0	0-4.0' Tan Silty FILL with GRAVEL	
			0.0		
2			0.0		
			0.0		
3		3.30	0.0		
			0.0		
4			7.0		
			12.7		
5	PB884-08		15.9	4.0-5.0' Brown Silt	
			55.3		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-09
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB884-09	3.30	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Tan Silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-10
		Page 1 of 1
Client: PESRM		Date Start: 12/06/2021
Project Name: PES Refinery		Date Finish: 12/06/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Sandy FILL with GRAVEL	
2					
3					
4	PB884-10		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-11
		Page 1 of 1
Client: PESRM		Date Start: 12/03/2021
Project Name: PES Refinery		Date Finish: 12/03/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown SILT with GRAVEL	
2					
3					
4	PB884-11		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-12
		Page 1 of 1
Client: PESRM		Date Start: 12/03/2021
Project Name: PES Refinery		Date Finish: 12/03/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown SILT with GRAVEL	
2					
3					
4	PB884-12		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-13
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB884-13	3.60	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Brown Silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-14
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB884-14	3.00	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Tan Silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-15
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB884-15	4.80	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Tan Silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-16
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB884-16	5.00	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Tan Silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-17
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB884-17	4.10	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-4.0' Tan Silty FILL with GRAVEL 4.0-5.0' Brown Silt with course Sand	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-18
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1			0.0	0-4.0' Tan Silty FILL with GRAVEL	
			0.0		
2			0.0		
			0.0		
3		4.10	0.0		
			0.0		
4			0.0		
			0.5		
5	PB884-18		0.5	4.0-5.0' Brown Silt	
			0.8		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-19
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB884-19	4.30	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Tan Silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-20
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB884-20	4.30	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Tan Silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-21
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB884-21	4.80	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Tan Silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-22
		Page 1 of 1
Client: PESRM		Date Start: 12/06/2021
Project Name: PES Refinery		Date Finish: 12/06/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Sandy FILL with STONE	
2					
3					
4	PB884-22		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-23
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB884-23	4.80	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Tan Silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-24
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB884-24	4.30	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-4.0' Tan Silty FILL with GRAVEL	
5			0.0 0.0	4.0-5.0' Brown SILT with course SAND	
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
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16					
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20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-25
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1			0.0	0-4.0' Tan Silty FILL with GRAVEL	
			0.0		
2			0.0		
			0.0		
3		4.58	0.0		
			0.0		
4			0.0		
			0.0		
5	PB884-25		0.0	4.0-5.0' Brown SILT	
			7.2		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-26
		Page 1 of 1
Client: PESRM		Date Start: 12/06/2021
Project Name: PES Refinery		Date Finish: 12/06/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown SAND with GRAVEL	
2					
3					
4	PB884-26		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-27
		Page 1 of 1
Client: PESRM		Date Start: 12/03/2021
Project Name: PES Refinery		Date Finish: 12/03/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown SILT with GRAVEL	
2					
3					
4	PB884-27		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-28
		Page 1 of 1
Client: PESRM		Date Start: 12/03/2021
Project Name: PES Refinery		Date Finish: 12/03/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown SILT with GRAVEL	
2					
3					
4	PB884-28		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-884-29
		Page 1 of 1
Client: PESRM		Date Start: 12/03/2021
Project Name: PES Refinery		Date Finish: 12/03/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown SILT with GRAVEL	
2					
3					
4	PB884-29		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-01
		Page 1 of 1
Client: PESRM		Date Start: 12/06/2021
Project Name: PES Refinery		Date Finish: 12/06/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown fine SAND	
2					
3					
4	PB885-01		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-02
		Page 1 of 1
Client: PESRM		Date Start: 12/06/2021
Project Name: PES Refinery		Date Finish: 12/06/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown fine SAND	
2					
3					
4	PB885-02		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-03
		Page 1 of 1
Client: PESRM		Date Start: 12/06/2021
Project Name: PES Refinery		Date Finish: 12/06/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Sandy FILL with STONE	
2					
3					
4	PB885-03		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-04
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT with some GRAVEL	
1			0.0		
			0.0		
2		4.50	0.0		
			0.0		
3			0.0		
	PB885-04		0.0		
4			0.0		
			0.0		
5			0.0		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-05
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT with some GRAVEL	
1			0.0		
			0.0		
2		4.50	0.0		
			0.0		
3			0.0		
	PB885-05		0.0		
4			0.0		
			0.0		
5			0.0		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-06
		Page 1 of 1
Client: PESRM		Date Start: 12/07/2021
Project Name: PES Refinery		Date Finish: 12/07/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0.0-5.0' Brown sandy FILL	
2					
3					
4	PB885-06		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-07
		Page 1 of 1
Client: PESRM		Date Start: 12/06/2021
Project Name: PES Refinery		Date Finish: 12/06/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown medium SAND with SILT	
2					
3					
4	PB885-07		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-08
		Page 1 of 1
Client: PESRM		Date Start: 12/06/2021
Project Name: PES Refinery		Date Finish: 12/06/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Sandy FILL with STONE	
2					
3					
4	PB885-08		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-09
		Page 1 of 1
Client: PESRM		Date Start: 12/06/2021
Project Name: PES Refinery		Date Finish: 12/06/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown SILT with CLAY	
2					
3					
4	PB885-09		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-10
		Page 1 of 1
Client: PESRM		Date Start: 12/06/2021
Project Name: PES Refinery		Date Finish: 12/06/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Sandy FILL with STONE	
2					
3					
4	PB885-10		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-11
		Page 1 of 1
Client: PESRM		Date Start: 12/06/2021
Project Name: PES Refinery		Date Finish: 12/06/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown SILT with SAND	
2					
3					
4	PB885-11		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-12
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT with some GRAVEL	
1			0.0		
			0.0		
2		4.00	0.0		
			0.0		
3			0.0		
	PB885-12		0.0		
4			0.0		
			0.0		
5			0.0		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-13
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT with some GRAVEL	
1			0.0		
			0.0		
2		4.00	0.0		
			0.0		
3			0.0		
	PB885-13		0.0		
4			0.0		
			0.0		
5			0.0		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-14
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT with some GRAVEL	
1			0.0		
			0.0		
2		4.50	0.0		
			0.0		
3			0.0		
	PB885-14		0.0		
4			0.0		
			0.0		
5			0.0		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-15
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT with some GRAVEL	
1			0.0		
			0.0		
2		4.50	0.0		
			0.0		
3			0.0		
	PB885-15		0.0		
4			0.0		
			0.0		
5			0.0		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-16
		Page 1 of 1
Client: PESRM		Date Start: 12/06/2021
Project Name: PES Refinery		Date Finish: 12/06/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0 Brown fine SAND with SILT	
2					
3					
4	PB885-16		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-17
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT with some GRAVEL	
1			0.0		
			0.0		
2		4.00	0.0		
			0.0		
3			0.0		
	PB885-17		0.0		
4			0.0		
			0.0		
5			0.0		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-18
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT with some GRAVEL	
1			0.0		
			0.0		
2		4.50	0.0		
			0.0		
3			0.0		
	PB885-18		0.0		
4			0.0		
			0.0		
5			0.0		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-19
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT with some GRAVEL	
1			0.0		
			0.0		
2		4.00	0.0		
			0.0		
3			0.0		
	PB885-19		0.0		
4			0.0		
			0.0		
5			0.0		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-20
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT with some GRAVEL	
1			0.0		
			0.0		
2		4.50	0.0		
			0.0		
3			0.0		
	PB885-20		0.0		
4			0.0		
			0.0		
5			0.0		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-21
		Page 1 of 1
Client: PESRM		Date Start: 12/07/2021
Project Name: PES Refinery		Date Finish: 12/07/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0.0-5.0' Brown sandy FILL	
2					
3					
4	PB885-21		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-22
		Page 1 of 1
Client: PESRM		Date Start: 12/07/2021
Project Name: PES Refinery		Date Finish: 12/07/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0.0-5.0' Brown SILT with fine SAND	
2					
3					
4	PB885-22		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-23
		Page 1 of 1
Client: PESRM		Date Start: 12/07/2021
Project Name: PES Refinery		Date Finish: 12/07/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0.0-5.0' Brown sandy FILL	
2					
3					
4	PB885-23		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-24
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT with some GRAVEL	
1			0.0		
			0.0		
2		3.50	0.0		
			0.0		
3			0.0		
	PB885-24		0.0		
4			0.0		
			0.0		
5			0.0		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-25
		Page 1 of 1
Client: PESRM		Date Start: 07/14/2022
Project Name: PES Refinery		Date Finish: 07/14/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
			0.0	0.0-5.0' Brown sandy SILT with some GRAVEL	
1			0.0		
			0.0		
2		4.00	0.0		
			0.0		
3			0.0		
	PB885-25		0.0		
4			0.0		
			0.0		
5			0.0		
				END OF BORING (5 ft.)	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-885-26
		Page 1 of 1
Client: PESRM		Date Start: 12/07/2021
Project Name: PES Refinery		Date Finish: 12/07/2021
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0.0-5.0' Brown sandy FILL	
2					
3					
4	PB885-26		0.0		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-01
		Page 1 of 1
Client: PESRM		Date Start: 10/07/2022
Project Name: PES Refinery		Date Finish: 10/07/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown fine Sand with SILT	
2					
3					
4	PB886-01		2.3		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-02
		Page 1 of 1
Client: PESRM		Date Start: 10/07/2022
Project Name: PES Refinery		Date Finish: 10/07/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown fine Sand with SILT	
2					
3					
4	PB886-02		5.7		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-03
		Page 1 of 1
Client: PESRM		Date Start: 10/07/2022
Project Name: PES Refinery		Date Finish: 10/07/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown fine Sand with SILT	
2					
3					
4	PB886-03		4.2		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-04
		Page 1 of 1
Client: PESRM		Date Start: 10/07/2022
Project Name: PES Refinery		Date Finish: 10/07/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown fine Sand with SILT	
2					
3					
4	PB886-04		7.1		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-05
		Page 1 of 1
Client: PESRM		Date Start: 10/07/2022
Project Name: PES Refinery		Date Finish: 10/07/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Sandy FILL with STONE	
2					
3					
4	PB886-05		3.9		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-06
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB886-06	3.30	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Tan silty FILL with SAND and GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-07
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB886-07	4.3	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Tan silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-08
		Page 1 of 1
Client: PESRM		Date Start: 10/07/2022
Project Name: PES Refinery		Date Finish: 10/07/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.5-5.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Sandy FILL with STONE	
2					
3					
4					
5	PB886-08		32.7		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-09
		Page 1 of 1
Client: PESRM		Date Start: 10/07/2022
Project Name: PES Refinery		Date Finish: 10/07/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Sandy FILL with STONE	
2					
3					
4	PB886-09		15.6		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-10
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB886-10	3.00	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Tan Silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-11
		Page 1 of 1
Client: PESRM		Date Start: 10/07/2022
Project Name: PES Refinery		Date Finish: 10/07/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.5-4.0'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Sandy FILL with STONE	
2					
3					
4	PB886-11		77.9		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-12
		Page 1 of 1
Client: PESRM		Date Start: 10/07/2022
Project Name: PES Refinery		Date Finish: 10/07/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 4.0-4.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Gray SILT	
2					
3					
4					
5	PB886-12		136.8		
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-13
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB886-13	3.75	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Tan Silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-14
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB886-14	4.16	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0 Tan Silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-15
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB886-15	4.00	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0 Tan Silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-16
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB886-16	4.00	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Brown sandy SILT with some GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-17
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB886-17	4.50	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Brown sandy SILT with some GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-18
		Page 1 of 1
Client: PESRM		Date Start: 10/07/2022
Project Name: PES Refinery		Date Finish: 10/07/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown sandy FILL	
2					
3					
4	PB886-18		12.1		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-19
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB886-19	4.16	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0 Tan Silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-20
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB886-20	4.30	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0 Tan Silty FILL with GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-21
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB886-21	4.50	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Brown sandy SILT with some GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-22
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB886-22	4.00	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Brown sandy SILT with some GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-23
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB886-23	4.00	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Brown sandy SILT with some GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-24
		Page 1 of 1
Client: PESRM		Date Start: 10/07/2022
Project Name: PES Refinery		Date Finish: 10/07/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown fine SAND	
2					
3					
4	PB886-24		11.5		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-25
		Page 1 of 1
Client: PESRM		Date Start: 07/15/2022
Project Name: PES Refinery		Date Finish: 07/15/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1	PB886-25	4.00	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0-5.0' Brown sandy SILT with some GRAVEL	
2					
3					
4					
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-26
		Page 1 of 1
Client: PESRM		Date Start: 10/07/2022
Project Name: PES Refinery		Date Finish: 10/07/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown SAND with GRAVEL	
2					
3					
4	PB886-26		15.7		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Ransom Consulting, I	Soil Boring Log	Boring No.: PB-886-27
		Page 1 of 1
Client: PESRM		Date Start: 10/07/2022
Project Name: PES Refinery		Date Finish: 10/07/2022
Project No.: 200.00135	Location: Philadephia, PA	Permit No.:
Drilling Contractor: TPI		Ground Elevation: N/A
Driller:	Drilling Method: Geoprobe	Datum: N/A
Hole Diameter: 2"	Sampling Method: Acetate Liner	Total Depth: 5.0'
Logged By: Tyler Short	Sample Interval: 3.0-3.5'	Hammer wt./fall: N/A

Depth (ft)	Sample No.	Recovery (Feet)	PID/FID (ppm)	Lithologic Description	Remarks
1				0-5.0' Brown SAND with GRAVEL	
2					
3					
4	PB886-27		5.8		
5					
6				**END OF BORING (5 ft.)**	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Project: **PESRM AST Closure**
Project Location: **3144 Passyunk Ave**
Project Number: **P044.001.002**

Log of Boring PB-847-15R

Sheet 1 of 2

Date(s) Drilled **1/4/23**	Logged By **S. Metzger**	Checked By **M. McDonald**
Drilling Method **Direct Push**	Drill Bit Size/Type **2"x5' macrocore**	Total Depth of Borehole **20 feet bgs**
Drill Rig Type **7822DT**	Drilling Contractor **TPI Environmental, Inc.**	Approximate Surface Elevation
Groundwater Level and Date Measured **17.5' bgs**	Sampling Method(s) **Grab**	Closest Tank **PB 847**
Borehole Backfill **Soil Cuttings**	Location	

Depth (feet)	Recovery	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
0				SM		SILTY SAND, light brown, damp, dense, poorly graded, very fine grained; petroleum like odor	3.6	
							4.5	
							15.4	
							68.5	
	52/60						89.8	
							124.2	
							133.0	
							186.1	
							144.1	
5							108.8	
			PB-847-15R-6.0-6.5				108.0	Sample PB-847-15R-6.0-6.5 from 6.0-6.5' bgs
							133.9	
							221.4	
							129.8	
	52/60						117.0	
							40.6	
				CH		Clay, light gray, damp, low dilatancy, high plasticity; fill, petroleum like odor	12.7	
							10.4	
							53.8	
10							139.1	
							138.7	
							144.0	
				SW		GRAVELLY SAND, reddish brown, damp, loose, well graded	55.8	
							53.3	
							17.5	
	24/60						95.5	
							120.9	
							32.1	
							15.2	
15							32.2	
							28.2	
	24/60						40.3	

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Project: **PESRM AST Closure**
Project Location: **3144 Passyunk Ave**
Project Number: **P044.001.002**

Log of Boring PB-847-15R

Sheet 2 of 2

Depth (feet)	Recovery	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
				SW		GRAVELLY SAND, reddish brown, damp, loose, well graded	59.0	
							374.2	
			PB-847-15R-17.0-17.5				289.9	Sample PB-847-15R-17.0-17.5 from 17.0-17.5
						Saturated at 17.5' bgs	311.5	
	24/60						279.8	
							309.6	
							335.6	
20							326.4	
						End boring at 20.0' bgs		
25								
30								

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Project: **PESRM AST Closure**	Log of Boring TG04-MW-01/ PB-840-09R
Project Location: **3144 Passyunk Ave**	
Project Number: **P044.001.002**	**Sheet 1 of 2**

Date(s) Drilled **12/20/22**	Logged By **S. Metzger**	Checked By **M. McDonald**
Drilling Method **Direct Push**	Drill Bit Size/Type **2"x5' macrocore**	Total Depth of Borehole **20 feet bgs**
Drill Rig Type **7822DT**	Drilling Contractor **TPI Environmental, Inc.**	Approximate Surface Elevation
Groundwater Level and Date Measured **14.70' bgs**	Sampling Method(s) **Grab**	Closest Tank **PB 840**
Borehole Backfill **N/A**	Location	

Depth (feet)	Recovery	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
0				SM		SILTY SAND, brown, damp, dense, poorly graded; fill	28.1	Concrete
				ML		SILT, light brown, damp, firm, no dilatancy, no plasticity	1.5	
	48/60						1.4	
							1.8	
							0.4	
							2.9	
							1.3	Bentonite
							3.5	
							5.5	
5							4.5	2-inch Schedule 40 PVC
							1.0	
							1.3	
							1.0	
							1.7	
	54/60						0.7	#00 Sand
							0.3	
							1.2	
							0.8	
							0.6	
10							3.3	
			TG04-MW-01				4.7	Sample TG04-MW-01-10.0-10.5 from 10.0-10.5' bgs
							1.3	
							2.2	
							0.7	#01 Sand
	24/60						2.2	
							11.6	
			TG04-MW-01-13.0-13.5	GW		SANDY GRAVEL, dark brown, moist, loose, well graded, sub-rounded to sub-angular	3.0	Sample TG04-MW-01-13.0-13.5 from 13.0-13.5' bgs
						Saturated at 13.5' bgs	21.3	2-inch 0.010 Slotted Schedule 40 PVC pre-pack
							29.1	
15				SW		GRAVELLY SAND, reddish brown, wet, dense, well graded; petroleum like odor	104.0	
	36/60						190.4	
							249.2	

V:\Projects\P044 - PESRM\PES\ASTClosure\Well Installation\Boring Logs\TG07&TG04 Boring Logs.bg4[PESRM_well PID 15ft.tpl]

Project: **PESRM AST Closure**
Project Location: **3144 Passyunk Ave**
Project Number: **P044.001.002**

Log of Boring TG04-MW-01/ PB-840-09R

Sheet 2 of 2

Depth (feet)	Recovery	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	Well Log	REMARKS AND OTHER TESTS
	36/60			SW		GRAVELLY SAND, reddish brown, wet, dense, well graded; petroleum like odor	869.8 679.5 974.3 694.8 588.6		
				SP		SAND, brown to dark gray, wet, loose, poorly graded, coarse grained; petroleum like odor	989.9 1092 959.2		
20						End boring at 20.0' bgs			
25									
30									

V:\Projects\P044 - PESRM\PES\ASTClosure\Well Installation\Boring Logs\TG07&TG04 Boring Logs.bg4[PESRM_well PID 15ft.tpl]

Project: **PESRM AST Closure** Project Location: **3144 Passyunk Ave** Project Number: **P044.001.002**	Log of Boring TG04-MW-02/ PB-848-07R **Sheet 1 of 2**

Date(s) Drilled **12/19/22**	Logged By **S. Metzger**	Checked By **M. McDonald**
Drilling Method **Direct Push**	Drill Bit Size/Type **2"x5' macrocore**	Total Depth of Borehole **30 feet bgs**
Drill Rig Type **7822DT**	Drilling Contractor **TPI Environmental, Inc.**	Approximate Surface Elevation
Groundwater Level and Date Measured **24.0' bgs**	Sampling Method(s) **Grab**	Closest Tank **PB 848**
Borehole Backfill **N/A**	Location	

Depth (feet)	Recovery	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
0				SM		SILTY SAND, light brown, damp, dense, poorly graded; fill	0.0	Concrete
							0.0	
						Grades to dark brown	0.0	
							0.0	
	48/60						0.0	Bentonite
							0.0	
							0.0	
							0.2	2-inch Schedule 40 PVC
				ML		SILT, light brown, damp, firm, no dilatancy, no plasticity	0.5	
							0.7	#00 Sand
5						Grades to light brown	0.3	
							2.1	
							13.9	
							18.5	
	60/60		TG04-MW-02-7.0-7.5				29.5	Sample TG04-MW-02-7.0-7.5 from 7.0-7.5' bgs
							2.8	
							0.8	
							0.6	
						Grades to gray	4.1	#01 Sand
10							0.0	
							0.0	
							0.6	
							1.0	
							0.5	
	42/60						0.4	
				SW		GRAVELLY SAND, reddish brown, moist, loose, well graded	0.0	
							1.5	
							0.9	
							0.7	2-inch 0.010 Slotted Schedule 40 PVC pre-pack
15							2.4	
	36/60						17.2	
							43.7	

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Project: **PESRM AST Closure**
Project Location: **3144 Passyunk Ave**
Project Number: **P044.001.002**

Log of Boring TG04-MW-02/ PB-848-07R

Sheet 2 of 2

Depth (feet)	Recovery	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	Well Log	REMARKS AND OTHER TESTS
				SW		GRAVELLY SAND, reddish brown, moist, loose, well graded	4.4		
							27.4		
				CH		CLAY, light brown to gray, damp, low dilatancy, high plasticity	0.2		
	36/60						0.4		
							0.3		
							0.3		
							2.2		
20							0.1		
							1.9		
							3.7		
							3.5		
						grades to reddish brown	7.8		
	60/60						0.8		
							0.0		
							0.0		
			TG04-MW-02-23.5-24.0				39.2		Sample TG04-MW-02-23.5-24.0 from 23.5-24.0' bgs
				SW		GRAVELLY SAND, gray, wet, dense, well graded; Saturated at 24.0' bgs	51.3		
							124.2		
25							2.3		
							3.7		
							3.2		
							3.0		
	24/60						2.5		
							4.0		
							3.6		
							2.6		
							2.8		
30							312.8		
						End boring at 30.0' bgs			

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Project: **PESRM AST Closure** Project Location: **3144 Passyunk Ave** Project Number: **P044.001.002**	Log of Boring TG04-MW-03 **Sheet 1 of 2**

Date(s) Drilled **12/19/22**	Logged By **S. Metzger**	Checked By **M. McDonald**
Drilling Method **Direct Push**	Drill Bit Size/Type **2"x5' macrocore**	Total Depth of Borehole **20 feet bgs**
Drill Rig Type **7822DT**	Drilling Contractor **TPI Environmental, Inc.**	Approximate Surface Elevation
Groundwater Level and Date Measured **13.09' bgs**	Sampling Method(s)	Closest Tank **PB 884**
Borehole Backfill **N/A**	Location	

Depth (feet)	Recovery	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
0				SW		GRAVELLY SAND, light brown to tan, damp, dense, well graded; fill	0.0	Concrete
	42/60						0.0	
							0.0	
							0.0	
							0.0	
							0.0	Bentonite
				SM		SILTY SAND, brown, damp, dense, poorly graded	0.0	
5							0.0	2-inch Schedule 40 PVC
	48/60						0.0	
							0.0	
							0.0	#00 Sand
							0.0	
							0.0	
							0.0	
10							0.0	
	42/60						0.0	
							0.0	
							0.0	#01 Sand
							0.0	
							0.0	
							0.0	
				SP		SAND, gray, wet, loose, poorly graded, coarse grained	0.0	2-inch 0.010 Slotted Schedule 40 PVC pre-pack
15							0.0	
	42/60						0.0	

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Project: **PESRM AST Closure**
Project Location: **3144 Passyunk Ave**
Project Number: **P044.001.002**

Log of Boring TG04-MW-03

Sheet 2 of 2

Depth (feet)	Recovery	Sample Type	Sample Number	Material Type	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	Well Log	REMARKS AND OTHER TESTS
	42/60			SW		GRAVELLY SAND, reddish brown, wet, dense, well graded	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0		
20						End boring at 20.0' bgs			
25									
30									

V:\Projects\P044 - PESRM\PES\ASTClosure\Well Installation\Boring Logs\TG07&TG04 Boring Logs.bg4[PESRM_well PID 15ft.tpl]

Project: **PESRM AST Closure**
Project Location: **3144 Passyunk Ave**
Project Number: **P044.001.002**

Key to Log of Boring
Sheet 1 of 1

1 Depth (feet)	2 Recovery	3 Sample Type	4 Sample Number	5 Material Type	6 Graphic Log	7 MATERIAL DESCRIPTION	8 PID Reading, ppm	9 Well Log	10 REMARKS AND OTHER TESTS

COLUMN DESCRIPTIONS

1 Depth (feet): Depth in feet below the ground surface.
2 Recovery : Percent Recovery
3 Sample Type: Type of soil sample collected at the depth interval shown.
4 Sample Number: Sample identification number.
5 Material Type: Type of material encountered.
6 Graphic Log: Graphic depiction of the subsurface material encountered.
7 MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
8 PID Reading, ppm: The reading from a photo-ionization detector, in parts per million.
9 Well Log: Graphical representation of well installed upon completion of drilling and sampling.
10 REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

Bentonite
Portland Cement Concrete
Silty SAND (SM)
Poorly graded SAND (SP)
Well graded SAND (SW)

TYPICAL SAMPLER GRAPHIC SYMBOLS

Auger sampler
Bulk Sample
3-inch-OD California w/ brass rings
CME Sampler
Grab Sample
2.5-inch-OD Modified California w/ brass liners
Pitcher Sample
2-inch-OD unlined split spoon (SPT)
Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

Water level (at time of drilling, ATD)
Water level (after waiting, AW)
Minor change in material properties within a stratum
Inferred/gradational contact between strata
Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

V:\Projects\P044 - PESRM\PES\ASTClosure\Well Installation\Boring Logs\TG07&TG04 Boring Logs.bg4[PESRM_well PID 15ft.tpl]

Figure B-1

MONITORING WELL COMPLETION RECORD

DRILLING INFORMATION

DRILLING BEGAN:
DATE 12/20/22 TIME 923
WELL INSTALLATION BEGAN:
DATE 12/20/22 TIME 1049
WELL COMPLETION FINISHED:
DATE 1/04/23 TIME 1643
DRILLING CO. TPI Environmental
DRILLER B. Frace
LICENSE
DRILL RIG 7822DT
DRILLING METHOD:
☐ HOLLOW STEM AUGER
☐ SONIC
☑ OTHER: Direct Push
DIAMETER OF AUGERS:
ID 3.0" OD

SURFACE COMPLETION

☐ FLUSH MOUNT
☑ ABOVE GROUND W/BUMPER POST
☑ CONCRETE ☐ ASPHALT

MONITORING WELL

MONITORING WELL NO. TG04-MW-01
PROJECT PESRM AST Closure
SITE 3144 W. Passyunk Ave.
BOREHOLE NO. N/A
WELL PERMIT NO. N/A
TOC TO BOTTOM OF WELL 20.0'

ANNULAR SEAL

AMOUNT CALCULATED
AMOUNT USED 4 bags (200 lbs)
☑ GROUT FORMULA
PORTLAND CEMENT
BENTONITE PDS Bentonite
WATER
☐ PREPARED MIX
PRODUCT
MFG. BY
METHOD INSTALLED
☐ POURED ☐ TREMIE

Choker Sand

AMOUNT CALCULATED
AMOUNT USED 0.5 bags (25 lbs)
☐ PELLETS, SIZE
☐ CHIPS, SIZE
☑ #00 Sand
PRODUCT Superior Quartz
MFG. BY Filpro
METHOD INSTALLED
☑ POURED ☐ TREMIE
AMOUNT OF WATER USED

CASING

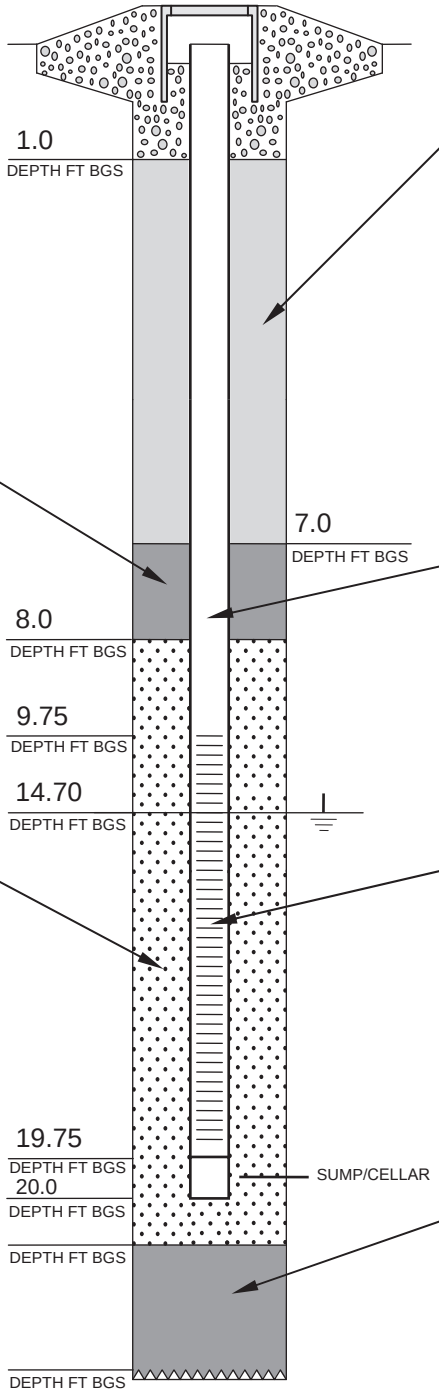
☑ SCHEDULE 40 PVC
☐
PRODUCT
MFG BY.
CASING DIAMETER:
ID 2" OD 2.375"
LENGTH OF CASING 1.75'

FILTER PACK

AMOUNT CALCULATED
AMOUNT USED 1 bag (50 lbs)
☑ SAND, SIZE #1 Sand
☐ FORMATION COLLAPSE:
FROM TO
PRODUCT Superior Quartz
MFG. BY Filpro
METHOD INSTALLED:
☑ POURED ☐ TREMIE

WELL SCREEN

☐ SCHEDULE 40 PVC
☑ Schedule 40 PVC pre-pack
PRODUCT
MFG. BY: Geoprobe
CASING DIAMETER:
ID 2.0" OD 2.75"
SLOT SIZE 0.010
LENGTH OF SCREEN 10.0'
LENGTH OF SUMP .25 "



SURVEY INFORMATION

TOC ELEVATION
GROUND ELEVATION
NORTHING COORD.
EASTING COORD.
DATE SURVEYED
SURVEY CO.
TOC MEASURING POINT:

BOREHOLE BACKFILL

AMOUNT CALCULATED
AMOUNT USED
☐ BENTONITE CHIPS, SIZE
☐ BENTONITE PELLETS, SIZE
☐ SLURRY
☐ FORMATION COLLAPSE
FROM TO
PRODUCT
MFG. BY
METHOD INSTALLED:
☐ POURED ☐ TREMIE

CENTRALIZERS USED?

☐ YES ☑ NO
CENTRALIZER DEPTHS:

MONITORING WELL COMPLETION RECORD

DRILLING INFORMATION

DRILLING BEGAN:
DATE 12/20/22 TIME 1309
WELL INSTALLATION BEGAN:
DATE 12/20/22 TIME 1336
WELL COMPLETION FINISHED:
DATE _____ TIME _____
DRILLING CO. TPI Environmental
DRILLER B. Frace
LICENSE _____
DRILL RIG 7822DT
DRILLING METHOD:
☐ HOLLOW STEM AUGER
☐ SONIC
☑ OTHER: Direct Push
DIAMETER OF AUGERS:
ID 3.0" OD _____

Choker Sand

AMOUNT CALCULATED _____
AMOUNT USED 0.5 bags (25 lbs)
☐ PELLETS, SIZE _____
☐ CHIPS, SIZE _____
☑ #00 Sand
PRODUCT Superior Quartz
MFG. BY Filpro
METHOD INSTALLED
☑ POURED ☐ TREMIE
AMOUNT OF WATER USED _____

FILTER PACK

AMOUNT CALCULATED _____
AMOUNT USED 1 bag (50 lbs)
☑ SAND, SIZE #1 Sand
☐ FORMATION COLLAPSE:
FROM _____ TO _____
PRODUCT Superior Quartz
MFG. BY Filpro
METHOD INSTALLED:
☑ POURED ☐ TREMIE

SURVEY INFORMATION

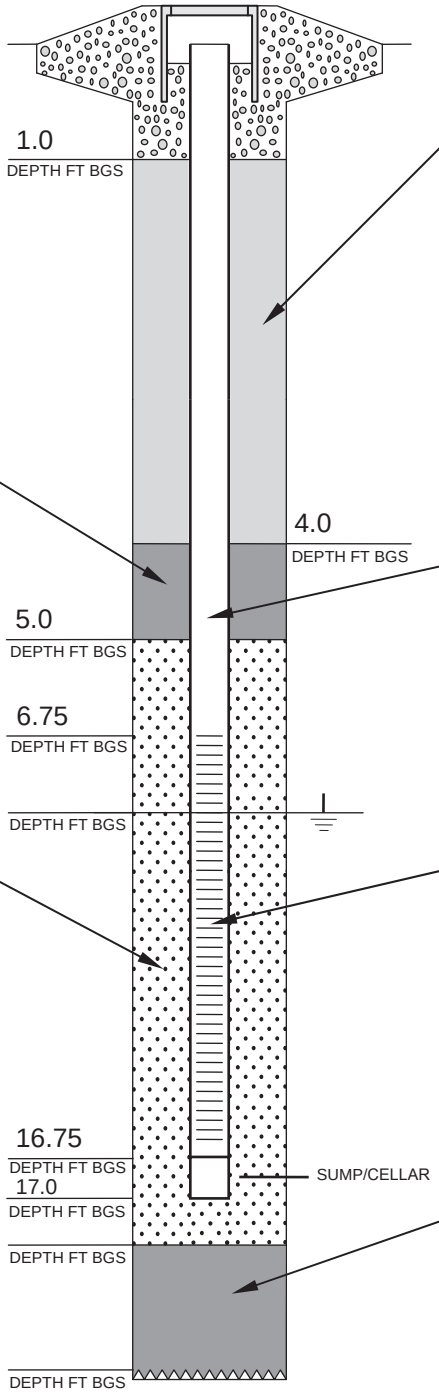
TOC ELEVATION _____
GROUND ELEVATION _____
NORTHING COORD. _____
EASTING COORD. _____
DATE SURVEYED _____
SURVEY CO. _____
TOC MEASURING POINT:

CENTRALIZERS USED?

☐ YES ☑ NO
CENTRALIZER DEPTHS: _____

SURFACE COMPLETION

☐ FLUSH MOUNT
☑ ABOVE GROUND W/BUMPER POST
☑ CONCRETE ☐ ASPHALT



MONITORING WELL

MONITORING WELL NO. TG04-MW-02
PROJECT PESRM AST Closure
SITE 3144 W. Passyunk Ave.
BOREHOLE NO. N/A
WELL PERMIT NO. N/A
TOC TO BOTTOM OF WELL 17.0'

ANNULAR SEAL

AMOUNT CALCULATED _____
AMOUNT USED 2 bags (100 lbs)
☑ GROUT FORMULA
PORTLAND CEMENT _____
BENTONITE PDS Bentonite
WATER _____
☐ PREPARED MIX
PRODUCT _____
MFG. BY _____
METHOD INSTALLED
☐ POURED ☐ TREMIE

CASING

☑ SCHEDULE 40 PVC
☐ _____
PRODUCT
MFG BY. _____
CASING DIAMETER:
ID 2" OD 2.375"
LENGTH OF CASING 1.75'

WELL SCREEN

☐ SCHEDULE 40 PVC
☑ Schedule 40 PVC pre-pack
PRODUCT _____
MFG. BY: Geoprobe
CASING DIAMETER:
ID 2.0" OD 2.75"
SLOT SIZE 0.010
LENGTH OF SCREEN 10.0'
LENGTH OF SUMP .25 "

BOREHOLE BACKFILL

AMOUNT CALCULATED _____
AMOUNT USED _____
☐ BENTONITE CHIPS, SIZE _____
☐ BENTONITE PELLETS, SIZE _____
☐ SLURRY _____
☐ FORMATION COLLAPSE
FROM _____ TO _____
PRODUCT _____
MFG. BY _____
METHOD INSTALLED:
☐ POURED ☐ TREMIE

MONITORING WELL COMPLETION RECORD

DRILLING INFORMATION

DRILLING BEGAN:
DATE 12/19/22 TIME 1000
WELL INSTALLATION BEGAN:
DATE 12/19/22 TIME 1015
WELL COMPLETION FINISHED:
DATE 12/19/22 TIME 1140
DRILLING CO. TPI Environmental
DRILLER B. Frace
LICENSE
DRILL RIG 7822DT
DRILLING METHOD:
☐ HOLLOW STEM AUGER
☐ SONIC
☑ OTHER: Direct Push
DIAMETER OF AUGERS:
ID 3.0" OD

Choker Sand

AMOUNT CALCULATED
AMOUNT USED 0.5 bags (25 lbs)
☐ PELLETS, SIZE
☐ CHIPS, SIZE
☑ #00 Sand
PRODUCT Superior Quartz
MFG. BY Filpro
METHOD INSTALLED
☑ POURED ☐ TREMIE
AMOUNT OF WATER USED

FILTER PACK

AMOUNT CALCULATED
AMOUNT USED 1 bag (50 lbs)
☑ SAND, SIZE #1 Sand
☐ FORMATION COLLAPSE:
FROM TO
PRODUCT Superior Quartz
MFG. BY Filpro
METHOD INSTALLED:
☑ POURED ☐ TREMIE

SURVEY INFORMATION

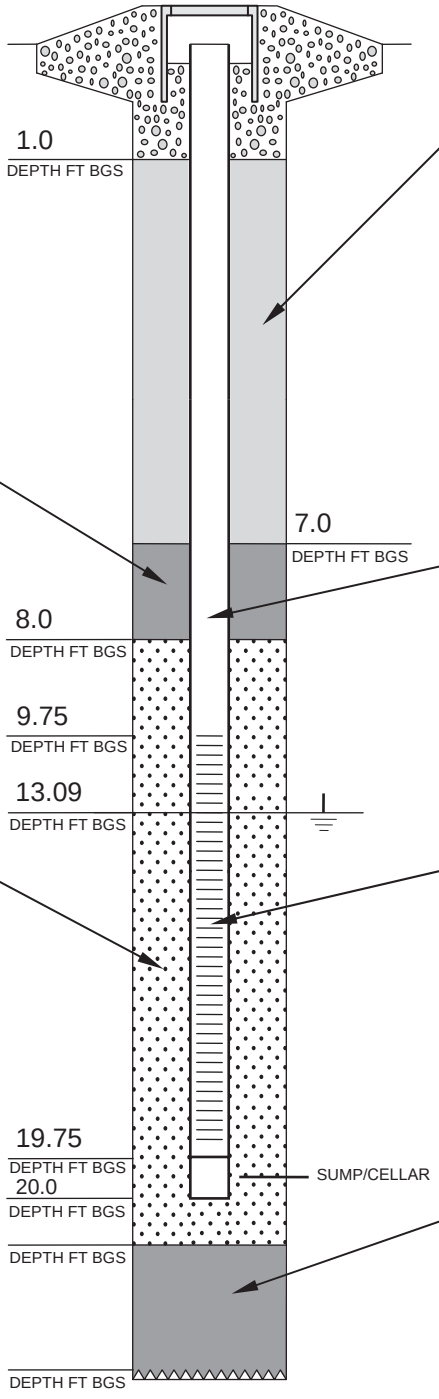
TOC ELEVATION
GROUND ELEVATION
NORTHING COORD.
EASTING COORD.
DATE SURVEYED
SURVEY CO.
TOC MEASURING POINT:

CENTRALIZERS USED?

☐ YES ☑ NO
CENTRALIZER DEPTHS:

SURFACE COMPLETION

☐ FLUSH MOUNT
☑ ABOVE GROUND W/BUMPER POST
☑ CONCRETE ☐ ASPHALT



MONITORING WELL

MONITORING WELL NO. TG04-MW-03
PROJECT PESRM AST Closure
SITE 3144 W. Passyunk Ave.
BOREHOLE NO. N/A
WELL PERMIT NO. N/A
TOC TO BOTTOM OF WELL 20.0'

ANNULAR SEAL

AMOUNT CALCULATED
AMOUNT USED 4 bags (200 lbs)
☑ GROUT FORMULA
PORTLAND CEMENT
BENTONITE PDS Bentonite
WATER
☐ PREPARED MIX
PRODUCT
MFG. BY
METHOD INSTALLED
☐ POURED ☐ TREMIE

CASING

☑ SCHEDULE 40 PVC
☐
PRODUCT
MFG BY.
CASING DIAMETER:
ID 2" OD 2.375"
LENGTH OF CASING 1.75'

WELL SCREEN

☐ SCHEDULE 40 PVC
☑ Schedule 40 PVC pre-pack
PRODUCT
MFG. BY: Geoprobe
CASING DIAMETER:
ID 2.0" OD 2.75"
SLOT SIZE 0.010
LENGTH OF SCREEN 10.0'
LENGTH OF SUMP .25 "

BOREHOLE BACKFILL

AMOUNT CALCULATED
AMOUNT USED
☐ BENTONITE CHIPS, SIZE
☐ BENTONITE PELLETS, SIZE
☐ SLURRY
☐ FORMATION COLLAPSE
FROM TO
PRODUCT
MFG. BY
METHOD INSTALLED:
☐ POURED ☐ TREMIE

Appendix E

Historical Soil and Groundwater Analytical Results

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4_BH-13-81	AOI4_BH-13-90	AOI4_BH-13-94	AOI4_BH-13-94	AOI4-BH-13-100	AOI4-BH-13-100	AOI4-BH-13-101	AOI4-BH-13-101
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI-4_BH-13-81_8-10'	AOI-4_BH-13-90_8-10'_031513	AOI-4_BH-13-94_0-2_031513	AOI-4_BH-13-94_8-10_031513	AOI4-BH-13-100_0-1_31813	AOI4-BH-13-100_5-6_31813	AOI4-BH-13-101_0-1_31813	AOI4-BH-13-101_7-8_31813
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	8.0 - 10.0	8.0 - 10.0	0.0 - 2.0	8.0 - 10.0	0.0 - 1.0	5.0 - 6.0	0.0 - 1.0	7.0 - 8.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	3/20/2013	3/15/2013	3/15/2013	3/15/2013	3/18/2013	3/18/2013	3/18/2013	3/18/2013
Comments	(0-2 ft)	(2-15 ft)	MSCs								
Volatile Organic Compounds											
Benzene	280	330	0.5	ND (0.00091)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.00088)	ND (0.0011)	ND (0.001)	ND (0.0013)
Cumene	10000	10000	2500	ND (0.0046)	ND (0.0058)	ND (0.0051)	ND (0.0055)	ND (0.0044)	ND (0.0057)	ND (0.0051)	ND (0.0063)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00091)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.00088)	ND (0.0011)	ND (0.001)	ND (0.0013)
1,2-Dichloroethane	85	98	0.5	ND (0.00091)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.00088)	ND (0.0011)	ND (0.001)	ND (0.0013)
Ethyl Benzene	880	1000	70	ND (0.00091)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.00088)	ND (0.0011)	ND (0.001)	ND (0.0013)
Methyl tert-butyl ether	8500	9800	2	ND (0.00091)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.00088)	ND (0.0011)	ND (0.001)	ND (0.0013)
Toluene	10000	10000	100	ND (0.00091)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.00088)	ND (0.0011)	ND (0.001)	ND (0.0013)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0046)	ND (0.0058)	ND (0.0051)	ND (0.0055)	ND (0.0044)	ND (0.0057)	ND (0.0051)	ND (0.0063)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0046)	ND (0.0058)	ND (0.0051)	ND (0.0055)	ND (0.0044)	ND (0.0057)	ND (0.0051)	ND (0.0063)
Xylenes (total)	7900	9100	1000	ND (0.00091)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.00088)	ND (0.0011)	ND (0.001)	ND (0.0013)
Semivolatile Organic Compounds											
Anthracene	190000	190000	350	ND (0.036)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.038)	ND (0.037)	0.0182 J (0.037)	ND (0.04)
Benzo(a)anthracene	130	190000	340	ND (0.036)	ND (0.12)	ND (0.11)	ND (0.12)	0.0231 J (0.038)	ND (0.037)	0.0559 (0.037)	ND (0.04)
Benzo(a)pyrene	91	190000	46	ND (0.036)	ND (0.12)	0.0442 J (0.11)	ND (0.12)	0.0243 J (0.038)	ND (0.037)	0.0449 (0.037)	ND (0.04)
Benzo(b)fluoranthene	76	190000	170	ND (0.036)	ND (0.12)	0.15 (0.11)	ND (0.12)	0.0303 J (0.038)	ND (0.037)	0.0544 (0.037)	ND (0.04)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.036)	ND (0.12)	ND (0.11)	ND (0.12)	0.0274 J (0.038)	ND (0.037)	0.0408 (0.037)	ND (0.04)
Chrysene	760	190000	230	ND (0.036)	ND (0.12)	ND (0.11)	ND (0.12)	0.0263 J (0.038)	ND (0.037)	0.0787 (0.037)	ND (0.04)
Fluorene	130000	190000	3800	ND (0.036)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.038)	ND (0.037)	ND (0.037)	ND (0.04)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.036)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.038)	ND (0.037)	ND (0.037)	ND (0.04)
Phenanthrene	190000	190000	10000	ND (0.036)	ND (0.12)	ND (0.11)	ND (0.12)	0.0235 J (0.038)	ND (0.037)	0.104 (0.037)	ND (0.04)
Pyrene	96000	190000	2200	ND (0.036)	ND (0.12)	0.0604 J (0.11)	ND (0.12)	0.0297 J (0.038)	ND (0.037)	0.12 (0.037)	ND (0.04)
Metals											
Lead	1000	190000	450	2.5 (2.3)	8.6 (1.1)	43.8 (1.1)	6.2 (1.1)	399 (2.3)	12.8 (2.4)	<u>494 (2.4)</u>	10.2 (2.1)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-BH-13-102	AOI4-BH-13-102	AOI4-BH-13-103	AOI4-BH-13-104	AOI4-BH-13-104	AOI4-BH-13-82	AOI4-BH-13-84	AOI4-BH-13-85
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-BH-13-102_0-1_31813	AOI4-BH-13-102_6-7_31813	AOI4-BH-13-103_2-3_31813	AOI4-BH-13-104_0-.5_31513	AOI4-BH-13-104_6-7_31513	AOI4-BH-13-82_6.5-7_031813	AOI4-BH-13-84_5.5-6_031513	AOI4-BH-13-85_5.5-6_031513
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 1.0	6.0 - 7.0	2.0 - 3.0	0.0 - 0.5	6.0 - 7.0	6.5 - 7.0	5.5 - 6.0	5.5 - 6.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	3/18/2013	3/18/2013	3/18/2013	3/15/2013	3/15/2013	3/18/2013	3/15/2013	3/15/2013
Comments	(0-2 ft)	(2-15 ft)	MSCs								
Volatile Organic Compounds											
Benzene	280	330	0.5	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.001)	1.96 (0.27)	ND (0.099)	ND (0.00088)	ND (0.00088)
Cumene	10000	10000	2500	ND (0.0056)	ND (0.005)	ND (0.0055)	ND (0.005)	7.31 (1.4)	0.129 J (0.5)	ND (0.0044)	ND (0.0044)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.001)	ND (0.27)	ND (0.099)	ND (0.00088)	ND (0.00088)
1,2-Dichloroethane	85	98	0.5	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.001)	ND (0.27)	ND (0.099)	ND (0.00088)	ND (0.00088)
Ethyl Benzene	880	1000	70	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.001)	29.5 (0.27)	0.186 (0.099)	ND (0.00088)	ND (0.00088)
Methyl tert-butyl ether	8500	9800	2	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.001)	ND (0.27)	ND (0.099)	ND (0.00088)	ND (0.00088)
Toluene	10000	10000	100	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.001)	6.55 (0.27)	ND (0.099)	ND (0.00088)	ND (0.00088)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0056)	ND (0.005)	ND (0.0055)	ND (0.005)	75.4 (5.5)	0.362 J (0.5)	ND (0.0044)	ND (0.0044)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0056)	ND (0.005)	ND (0.0055)	ND (0.005)	27.3 (1.4)	0.147 J (0.5)	ND (0.0044)	ND (0.0044)
Xylenes (total)	7900	9100	1000	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.001)	65.6 (0.27)	0.339 (0.099)	ND (0.00088)	ND (0.00088)
Semivolatile Organic Compounds											
Anthracene	190000	190000	350	ND (0.036)	ND (0.037)	ND (0.04)	ND (0.12)	2.56 (0.12)	ND (0.04)	ND (0.12)	ND (0.12)
Benzo(a)anthracene	130	190000	340	0.0292 J (0.036)	ND (0.037)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.04)	ND (0.12)	ND (0.12)
Benzo(a)pyrene	91	190000	46	ND (0.036)	ND (0.037)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.04)	ND (0.12)	ND (0.12)
Benzo(b)fluoranthene	76	190000	170	ND (0.036)	ND (0.037)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.04)	ND (0.12)	ND (0.12)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.036)	ND (0.037)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.04)	ND (0.12)	ND (0.12)
Chrysene	760	190000	230	0.0338 J (0.036)	ND (0.037)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.04)	ND (0.12)	ND (0.12)
Fluorene	130000	190000	3800	ND (0.036)	ND (0.037)	ND (0.04)	ND (0.12)	6.14 (0.12)	ND (0.04)	ND (0.12)	ND (0.12)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.036)	ND (0.037)	ND (0.04)	ND (0.12)	21.2 (0.61)	ND (0.04)	ND (0.12)	ND (0.12)
Phenanthrene	190000	190000	10000	0.0401 (0.036)	ND (0.037)	0.0341 J (0.04)	ND (0.12)	21.7 (0.61)	ND (0.04)	ND (0.12)	ND (0.12)
Pyrene	96000	190000	2200	0.0476 (0.036)	ND (0.037)	ND (0.04)	ND (0.12)	0.697 (0.12)	ND (0.04)	ND (0.12)	ND (0.12)
Metals											
Lead	1000	190000	450	1620 (2.4)	9.2 (2.1)	34 (2)	7 (1.1)	7.9 (1.1)	13.3 (2.5)	6.6 (1)	6.9 (1.1)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-BH-13-86	AOI4-BH-13-86	AOI4-BH-13-88	AOI4-BH-13-88	AOI4-BH-13-88	AOI4-BH-13-89	AOI4-BH-13-91	AOI4-BH-13-91
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-BH-13-86_2-2.5_031513	AOI4-BH-13-86_5.5-6_031513	AOI4-BH-13-88_1.5-2_31413	AOI4-BH-13-88_3.5-4_031413	AOI4-BH-13-88_5.5-6_031413	AOI4-BH-13-89_5.5-6_031913	AOI4-BH-13-91_0-2'_031413	AOI4-BH-13-91_8-10'_031413
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	2.0 - 2.5	5.5 - 6.0	1.5 - 2.0	3.5 - 4.0	5.5 - 6.0	5.5 - 6.0	0.0 - 2.0	8.0 - 10.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	3/15/2013	3/15/2013	3/14/2013	3/14/2013	3/14/2013	3/19/2013	3/14/2013	3/14/2013
Comments	(0-2 ft)	(2-15 ft)	MSCs								
Volatile Organic Compounds											
Benzene	280	330	0.5	ND (0.00085)	ND (0.00088)	ND (0.11)	ND (0.1)	ND (0.001)	ND (0.00089)	ND (0.00088)	ND (0.00085)
Cumene	10000	10000	2500	0.0143 (0.0043)	ND (0.0044)	0.694 (0.55)	0.993 (0.5)	ND (0.0051)	ND (0.0045)	ND (0.0044)	ND (0.0043)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00085)	ND (0.00088)	ND (0.11)	ND (0.1)	ND (0.001)	ND (0.00089)	ND (0.00088)	ND (0.00085)
1,2-Dichloroethane	85	98	0.5	ND (0.00085)	ND (0.00088)	ND (0.11)	ND (0.1)	ND (0.001)	ND (0.00089)	ND (0.00088)	ND (0.00085)
Ethyl Benzene	880	1000	70	0.0206 (0.00085)	ND (0.00088)	ND (0.11)	ND (0.1)	ND (0.001)	ND (0.00089)	ND (0.00088)	ND (0.00085)
Methyl tert-butyl ether	8500	9800	2	ND (0.00085)	ND (0.00088)	ND (0.11)	ND (0.1)	ND (0.001)	ND (0.00089)	ND (0.00088)	ND (0.00085)
Toluene	10000	10000	100	ND (0.00085)	ND (0.00088)	ND (0.11)	ND (0.1)	ND (0.001)	ND (0.00089)	ND (0.00088)	ND (0.00085)
1,2,4-Trimethylbenzene	4700	5400	300	0.0437 (0.0043)	ND (0.0044)	13.6 (0.55)	6.95 (0.5)	ND (0.0051)	ND (0.0045)	ND (0.0044)	ND (0.0043)
1,3,5-Trimethylbenzene	4700	5400	93	0.0169 (0.0043)	ND (0.0044)	ND (0.55)	ND (0.5)	ND (0.0051)	ND (0.0045)	ND (0.0044)	ND (0.0043)
Xylenes (total)	7900	9100	1000	0.0109 (0.00085)	ND (0.00088)	ND (0.11)	ND (0.1)	ND (0.001)	ND (0.00089)	ND (0.00088)	ND (0.00085)
Semivolatile Organic Compounds											
Anthracene	190000	190000	350	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.11)	ND (0.11)
Benzo(a)anthracene	130	190000	340	ND (0.12)	0.0692 J (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.11)	ND (0.11)
Benzo(a)pyrene	91	190000	46	ND (0.12)	0.0431 J (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.11)	ND (0.11)
Benzo(b)fluoranthene	76	190000	170	ND (0.12)	0.122 (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.037)	0.13 (0.11)	ND (0.11)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.11)	ND (0.11)
Chrysene	760	190000	230	ND (0.12)	0.0634 J (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.11)	ND (0.11)
Fluorene	130000	190000	3800	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.11)	ND (0.11)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.12)	ND (0.11)	2.53 (0.12)	0.894 (0.12)	ND (0.12)	ND (0.037)	ND (0.11)	ND (0.11)
Phenanthrene	190000	190000	10000	ND (0.12)	0.107 J (0.11)	0.622 (0.12)	0.393 (0.12)	ND (0.12)	ND (0.037)	ND (0.11)	ND (0.11)
Pyrene	96000	190000	2200	ND (0.12)	0.147 (0.11)	0.0608 J (0.12)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.11)	ND (0.11)
Metals											
Lead	1000	190000	450	7.8 (1.1)	<u>2140 (5.4)</u>	10 (1.2)	7.1 (1.1)	6.2 (1.1)	6.7 (2)	60.8 (1)	7.3 (0.99)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-BH-13-92	AOI4-BH-13-93	AOI4-BH-13-95	AOI4-BH-13-97	AOI4-BH-13-97	AOI4-BH-13-98	AOI4-BH-13-98	AOI4-BH-13-99
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-BH-13-92_8-10'	AOI4-BH-13-93_8-10'	AOI4-BH-13-95_8-10'	AOI4-BH-13-97.0-1_31413	AOI4-BH-13-97-8.5-9.5_31413	AOI4-BH-13-98_6-7_31413	AOI4-BH-13-98-1-2_31413	AOI4-BH-13-99_2.5-3_031813
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	8.0 - 10.0	8.0 - 10.0	8.0 - 10.0	0.0 - 1.0	8.5 - 9.5	6.0 - 7.0	1.0 - 2.0	2.5 - 3.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	3/18/2013	3/18/2013	3/18/2013	3/14/2013	3/14/2013	3/14/2013	3/14/2013	3/18/2013
Comments	(0-2 ft)	(2-15 ft)	MSCs								
Volatile Organic Compounds											
Benzene	280	330	0.5	ND (0.00089)	ND (0.00077)	ND (0.0009)	ND (0.00095)	ND (0.001)	0.127 (0.00096)	ND (0.001)	0.245 (0.15)
Cumene	10000	10000	2500	ND (0.0045)	ND (0.0038)	ND (0.0045)	ND (0.0047)	ND (0.005)	0.015 (0.0048)	ND (0.0051)	0.122 J (0.73)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00089)	ND (0.00077)	ND (0.0009)	ND (0.00095)	ND (0.001)	ND (0.00096)	ND (0.001)	ND (0.15)
1,2-Dichloroethane	85	98	0.5	ND (0.00089)	ND (0.00077)	ND (0.0009)	ND (0.00095)	ND (0.001)	ND (0.00096)	ND (0.001)	ND (0.15)
Ethyl Benzene	880	1000	70	ND (0.00089)	ND (0.00077)	ND (0.0009)	ND (0.00095)	ND (0.001)	0.581 (0.098)	ND (0.001)	0.11 J (0.15)
Methyl tert-butyl ether	8500	9800	2	ND (0.00089)	ND (0.00077)	ND (0.0009)	ND (0.00095)	ND (0.001)	ND (0.00096)	ND (0.001)	ND (0.15)
Toluene	10000	10000	100	ND (0.00089)	ND (0.00077)	ND (0.0009)	ND (0.00095)	ND (0.001)	0.702 (0.098)	ND (0.001)	0.182 (0.15)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0045)	ND (0.0038)	ND (0.0045)	ND (0.0047)	ND (0.005)	1.15 (0.49)	ND (0.0051)	0.169 J (0.73)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0045)	ND (0.0038)	ND (0.0045)	ND (0.0047)	ND (0.005)	0.0948 (0.0048)	ND (0.0051)	0.0611 J (0.73)
Xylenes (total)	7900	9100	1000	ND (0.00089)	ND (0.00077)	ND (0.0009)	ND (0.00095)	ND (0.001)	2.42 (0.098)	ND (0.001)	0.671 (0.15)
Semivolatile Organic Compounds											
Anthracene	190000	190000	350	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	ND (0.12)	ND (0.037)
Benzo(a)anthracene	130	190000	340	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	0.105 J (0.12)	0.0652 (0.037)
Benzo(a)pyrene	91	190000	46	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	0.0823 J (0.12)	0.0875 (0.037)
Benzo(b)fluoranthene	76	190000	170	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	0.189 (0.12)	0.0954 (0.037)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	0.0753 J (0.12)	0.109 (0.037)
Chrysene	760	190000	230	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	0.112 J (0.12)	0.114 (0.037)
Fluorene	130000	190000	3800	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	ND (0.12)	0.191 (0.037)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	ND (0.12)	0.0933 (0.037)
Phenanthrene	190000	190000	10000	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	0.0619 J (0.12)	0.38 (0.037)
Pyrene	96000	190000	2200	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	0.201 (0.12)	0.14 (0.037)
Metals											
Lead	1000	190000	450	11.6 (2.4)	10.7 (2.3)	5.5 (2.3)	81.5 (1.1)	2.9 (1)	8 (1.1)	136 (1.1)	1870 (2.4)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-BH-16-003	AOI4-BH-16-003	AOI4-BH-16-004	AOI4-BH-16-004	AOI4-BH-16-008	AOI4-BH-16-009	AOI4-BH-16-010
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-BH-16-003-0-2-20160824	AOI4-BH-16-003-14-15-20160824	AOI4-BH-16-004-0-2-20160824	AOI4-BH-16-004-14-15-20160824	AOI4-BH-16-008-0-2-20160614	AOI4-BH-16-009-0-2-20160614	AOI4-BH-16-010-0-2-20160614
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 2.0	14.0 - 15.0	0.0 - 2.0	14.0 - 15.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/24/2016	8/24/2016	8/24/2016	8/24/2016	6/14/2016	6/14/2016	6/14/2016
Comments	(0-2 ft)	(2-15 ft)	MSCs							
Volatile Organic Compounds										
Benzene	280	330	0.5	ND (0.00126)	0.00122 (0.0011)	ND (0.00121)	0.00135 (0.0012)	NA	NA	NA
Cumene	10000	10000	2500	ND (0.0126)	ND (0.011)	ND (0.0121)	ND (0.012)	NA	NA	NA
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00126)	ND (0.0011)	ND (0.00121)	ND (0.0012)	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	ND (0.00126)	ND (0.0011)	ND (0.00121)	ND (0.0012)	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.00126)	ND (0.0011)	ND (0.00121)	ND (0.0012)	NA	NA	NA
Methyl tert-butyl ether	8500	9800	2	0.00155 (0.00126)	0.0177 (0.0011)	ND (0.00121)	ND (0.0012)	NA	NA	NA
Toluene	10000	10000	100	ND (0.00629)	ND (0.0055)	ND (0.00604)	ND (0.00602)	NA	NA	NA
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.00126)	ND (0.0011)	ND (0.00121)	ND (0.0012)	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.00126)	ND (0.0011)	ND (0.00121)	ND (0.0012)	NA	NA	NA
Xylenes (total)	7900	9100	1000	ND (0.00377)	ND (0.0033)	ND (0.00362)	ND (0.00361)	NA	NA	NA
Semivolatile Organic Compounds										
Anthracene	190000	190000	350	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Benzo(a)anthracene	130	190000	340	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Benzo(a)pyrene	91	190000	46	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Benzo(b)fluoranthene	76	190000	170	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Benzo(g,h,i)perylene	190000	190000	180	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Chrysene	760	190000	230	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Fluorene	130000	190000	3800	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Naphthalene	66	77	25	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Phenanthrene	190000	190000	10000	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Pyrene	96000	190000	2200	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Metals										
Lead	1000	190000	450	8.18 (0.629)	6.69 (0.55)	12.2 (0.604)	10.8 (0.602)	1760 J (0.561)	1490 J (0.583)	160 J (0.574)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-BH-16-012	AOI4-BH-16-013	AOI4-BH-16-013	AOI4-BH-16-014	AOI4-BH-16-014	AOI4-BH-16-015	AOI4-BH-16-015
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-BH-16-012-0-2-20160613	AOI4-BH-16-013-0-2-20160630	AOI4-BH-16-013-13-14-20160630	AOI4-BH-16-014-0-2-20160629	AOI4-BH-16-014-13-14-20160629	AOI4-BH-16-015-0-2-20160622	AOI4-BH-16-015-13-15-20160622
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 2.0	0.0 - 2.0	13.0 - 14.0	0.0 - 2.0	13.0 - 14.0	0.0 - 2.0	13.0 - 15.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	6/13/2016	6/30/2016	6/30/2016	6/29/2016	6/29/2016	6/22/2016	6/22/2016
Comments	(0-2 ft)	(2-15 ft)	MSCs							
Volatile Organic Compounds										
Benzene	280	330	0.5	NA	0.00349 (0.00118)	ND (0.0528)	0.0626 (0.00114)	ND (0.122)	0.0023 (0.0012)	ND (0.00107)
Cumene	10000	10000	2500	NA	0.0415 (0.0118)	ND (0.528)	ND (0.0114)	ND (1.22)	ND (0.012)	ND (0.0107)
1,2-Dibromoethane	3.7	4.2	0.005	NA	ND (0.00118)	ND (0.0528)	ND (0.00114)	ND (0.122)	ND (0.0012)	ND (0.00107)
1,2-Dichloroethane	85	98	0.5	NA	ND (0.00118)	ND (0.0528)	ND (0.00114)	ND (0.122)	ND (0.0012)	ND (0.00107)
Ethyl Benzene	880	1000	70	NA	ND (0.00118)	ND (0.0528)	0.00835 (0.00114)	ND (0.122)	ND (0.0012)	ND (0.00107)
Methyl tert-butyl ether	8500	9800	2	NA	0.0452 (0.00118)	0.205 (0.0528)	0.0017 (0.00114)	ND (0.122)	ND (0.0012)	ND (0.00107)
Toluene	10000	10000	100	NA	ND (0.00589)	ND (0.264)	ND (0.00568)	ND (0.611)	ND (0.00601)	ND (0.00533)
1,2,4-Trimethylbenzene	4700	5400	300	NA	ND (0.00118)	0.327 (0.0528)	ND (0.00114)	ND (0.122)	ND (0.0012)	ND (0.00107)
1,3,5-Trimethylbenzene	4700	5400	93	NA	ND (0.00118)	0.0551 (0.0528)	ND (0.00114)	ND (0.122)	ND (0.0012)	ND (0.00107)
Xylenes (total)	7900	9100	1000	NA	ND (0.00353)	ND (0.159)	ND (0.00341)	ND (0.366)	ND (0.00361)	ND (0.0032)
Semivolatile Organic Compounds										
Anthracene	190000	190000	350	NA	ND (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Benzo(a)anthracene	130	190000	340	NA	ND (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Benzo(a)pyrene	91	190000	46	NA	ND (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Benzo(b)fluoranthene	76	190000	170	NA	ND (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Benzo(g,h,i)perylene	190000	190000	180	NA	ND (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Chrysene	760	190000	230	NA	ND (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Fluorene	130000	190000	3800	NA	ND (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	ND (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Naphthalene	66	77	25	NA	ND (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Phenanthrene	190000	190000	10000	NA	0.262 (0.194)	0.303 (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Pyrene	96000	190000	2200	NA	0.292 (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Metals										
Lead	1000	190000	450	1080 J (0.678)	255 (0.589)	65.1 (0.637)	57.6 (0.568)	13.9 (0.611)	310 (0.601)	17.9 (0.533)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
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5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
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Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-BH-16-018	AOI4-BH-16-018	AOI4-BH-16-022	AOI4-GP-1	AOI4-GP-1	AOI4-GP-2	AOI4-GP-2	AOI4-GP-3
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-BH-16-018-0-2-20160628	AOI4-BH-16-018-14-15-20160628	AOI4-BH-16-022-0-2-20160623	GP-1(1.5-2)	GP-1(15-15.5)	GP-2(1.5-2)	GP-2(15-15.5)	GP-3(0-2)
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 2.0	14.0 - 15.0	0.0 - 2.0	1.5 - 2.0	15.0 - 15.5	1.5 - 2.0	15.0 - 15.5	0.0 - 2.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	6/28/2016	6/28/2016	6/23/2016	5/28/2003	5/28/2003	5/28/2003	5/28/2003	5/28/2003
Comments	(0-2 ft)	(2-15 ft)	MSCs								
Volatile Organic Compounds											
Benzene	280	330	0.5	ND (0.00129)	ND (0.202)	NA	ND (0.25)	0.11 J	ND (0.23)	ND (0.26)	ND (0.31)
Cumene	10000	10000	2500	ND (0.0129)	7.88 (2.02)	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00129)	ND (0.202)	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	ND (0.00129)	ND (0.202)	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.00129)	ND (0.202)	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	8500	9800	2	ND (0.00129)	ND (0.202)	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.00646)	ND (1.01)	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.00129)	ND (0.202)	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.00129)	ND (0.202)	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	ND (0.00388)	ND (0.605)	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds											
Anthracene	190000	190000	350	ND (0.0426)	ND (0.0392)	NA	0.5	ND (0.36)	ND (1.8)	ND (0.36)	0.31 J
Benzo(a)anthracene	130	190000	340	ND (0.0426)	ND (0.0392)	NA	2	ND (0.36)	5	ND (0.36)	1.6
Benzo(a)pyrene	91	190000	46	ND (0.0426)	ND (0.0392)	NA	2.2	ND (0.36)	4.8	ND (0.36)	1.4
Benzo(b)fluoranthene	76	190000	170	ND (0.0426)	ND (0.0392)	NA	1.8	ND (0.36)	3.8	ND (0.36)	1.1
Benzo(g,h,i)perylene	190000	190000	180	ND (0.0426)	ND (0.0392)	NA	0.67	ND (0.36)	1.7 J	ND (0.36)	0.41 J
Chrysene	760	190000	230	ND (0.0426)	ND (0.0392)	NA	1.8	ND (0.36)	4.4	ND (0.36)	1.4
Fluorene	130000	190000	3800	ND (0.0426)	0.426 (0.0392)	NA	ND (0.4)	0.4	ND (1.8)	0.2 J	ND (0.42)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.0426)	ND (0.0392)	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.0426)	ND (0.0392)	NA	0.2 J	3.7	0.72	2.2	ND (0.31)
Phenanthrene	190000	190000	10000	ND (0.0426)	0.76 (0.0392)	NA	1.7	0.99	2.1	0.48	1.1
Pyrene	96000	190000	2200	ND (0.0426)	ND (0.0392)	NA	1.8	ND (0.36)	5.4	ND (0.36)	2
Metals											
Lead	1000	190000	450	6.97 (0.646)	5.91 (0.593)	644 (0.617)	NA	NA	NA	NA	NA

Notes:
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2 Only Short List 1-6 analytes are shown.
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Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-GP-3	AOI4-GP-4	AOI4-GP-4	AOI4-GP-5	AOI4-GP-5	AOI4-GP-6	AOI4-GP-6	AOI4-GP-7	AOI4-GP-7
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	GP-3(15-15.5)	GP-4(1.5-2)~5/28/03~75559	GP-4(15-15.5)	GP-5(1.5-2)~5/28/03~75559	GP-5(15-15.5)	GP-6(1.5-2)	GP-6(15.5-16)	GP-7(1.5-2)	GP-7(15.5-16)
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	15.0 - 15.5	1.5 - 2.0	15.0 - 15.5	1.5 - 2.0	15.0 - 15.5	1.5 - 2.0	15.5 - 16.0	1.5 - 2.0	15.5 - 16.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	5/28/2003	5/28/2003	5/28/2003	5/28/2003	5/28/2003	5/28/2003	5/28/2003	5/29/2003	5/29/2003
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.25)	ND (0.24)	ND (0.25)	ND (0.31)	0.14 J	ND (0.27)	ND (0.26)	ND (0.26)	0.34 J
Cumene	10000	10000	2500	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.36)	1.9 J	ND (0.37)	0.61 J	ND (0.37)	1.3	ND (0.42)	ND (2)	ND (3.7)
Benzo(a)anthracene	130	190000	340	ND (0.36)	4.1	ND (0.37)	2.1	ND (0.37)	2.7	ND (0.42)	ND (2)	ND (3.7)
Benzo(a)pyrene	91	190000	46	ND (0.36)	3.5	ND (0.37)	2.3	ND (0.37)	2.3	ND (0.42)	ND (2)	ND (3.7)
Benzo(b)fluoranthene	76	190000	170	ND (0.36)	3.2	ND (0.37)	1.8	ND (0.37)	2	ND (0.42)	1.3 J	ND (3.7)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.36)	1.2 J	ND (0.37)	0.88 J	ND (0.37)	0.77 J	ND (0.42)	ND (2)	ND (3.7)
Chrysene	760	190000	230	ND (0.36)	4	ND (0.37)	2	ND (0.37)	2.4	ND (0.42)	ND (2)	ND (3.7)
Fluorene	130000	190000	3800	ND (0.36)	ND (0.19)	0.27 J	ND (0.95)	0.25 J	0.5 J	ND (0.42)	ND (2)	2.2 J
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	0.42	ND (0.24)	0.24 J	ND (0.31)	0.37	0.13 J	ND (0.26)	ND (0.26)	25
Phenanthrene	190000	190000	10000	0.35 J	10	0.69	1.9	0.66	4.7	ND (0.42)	ND (2)	5
Pyrene	96000	190000	2200	ND (0.36)	7.3	ND (0.37)	2.4	ND (0.37)	3.6	ND (0.42)	ND (2)	ND (3.7)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

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2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
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Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-GP-7	AOI4-GP-8	AOI4-GP-8	AOI4-GP-8	AOI4-GP-9	AOI4-PE-01	AOI4-PE-02	AOI4-PE-03	AOI4-PE-04
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	GP-7(6.5-7)	GP-8(1.5-2)	GP-8(15-15.5)	GP-8(7.5-8)	GP-9(Surface)	AOI4-PE-01	AOI4-PE-02	AOI4-PE-03	AOI4-PE-04
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	6.5 - 7.0	1.5 - 2.0	15.0 - 15.5	7.5 - 8.0	0	2.0 - 2.5	2	2.0 - 2.5	2
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	5/29/2003	5/29/2003	5/29/2003	5/29/2003	5/29/2003	7/13/2018	7/13/2018	7/13/2018	7/13/2018
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	0.16 J	ND (0.28)	ND (0.24)	ND (0.26)	0.054 J	NA	NA	NA	NA
Cumene	10000	10000	2500	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (4.7)	ND (8.1)	ND (0.37)	0.5 J	ND (57)	NA	NA	NA	NA
Benzo(a)anthracene	130	190000	340	ND (4.7)	ND (8.1)	ND (0.37)	ND (0.76)	ND (57)	NA	NA	NA	NA
Benzo(a)pyrene	91	190000	46	ND (4.7)	ND (8.1)	ND (0.37)	ND (0.76)	ND (57)	NA	NA	NA	NA
Benzo(b)fluoranthene	76	190000	170	ND (4.7)	ND (8.1)	ND (0.37)	ND (0.76)	ND (57)	NA	NA	NA	NA
Benzo(g,h,i)perylene	190000	190000	180	ND (4.7)	ND (8.1)	ND (0.37)	ND (0.76)	ND (57)	NA	NA	NA	NA
Chrysene	760	190000	230	ND (4.7)	ND (8.1)	ND (0.37)	0.63 J	ND (57)	NA	NA	NA	NA
Fluorene	130000	190000	3800	17	7.6 J	ND (0.37)	0.82	ND (57)	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	9.4	40 D	ND (0.24)	0.91	0.46	NA	NA	NA	NA
Phenanthrene	190000	190000	10000	49	22	0.38	3.4	230	NA	NA	NA	NA
Pyrene	96000	190000	2200	10	4.1 J	ND (0.37)	1.3	37 J	NA	NA	NA	NA
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	8400 (8.23)	734 (1.44)	3490 (8.65)	36800 (37.9)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

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ND - Not Detected
NA - Not Analyzed
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J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-PE-05	AOI4-PE-06	AOI4-PE-07	AOI4-PE-08	AOI4-PE-09	AOI4-PE-10	AOI4-PE-11	AOI4-PE-12	AOI4-PE-13
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-PE-05	AOI4-PE-06	AOI4-PE-07	AOI4-PE-08	AOI4-PE-09	AOI4-PE-10	AOI4-PE-11	AOI4-PE-12	AOI4-PE-13
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.5 - 1.0	0.5	1.0 - 1.5	1	0.5	1	1.0 - 1.5	2	2
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/13/2018	7/13/2018	7/13/2018	7/13/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cumene	10000	10000	2500	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	130	190000	340	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	91	190000	46	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	76	190000	170	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	190000	190000	180	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	760	190000	230	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	130000	190000	3800	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	190000	190000	10000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	96000	190000	2200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Lead	1000	190000	450	5690 (6.11)	6380 (7.27)	11.3 (1.73)	134 (1.61)	529 (6.23)	4530 (6.53)	7460 (12.6)	27100 (76.1)	16000 (31.7)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

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Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-PE-14	AOI4-PE-15	AOI4-PE-16	AOI4-PE-17	AOI4-PE-18	AOI4-PE-19	AOI4-PE-20	AOI4-PE-21	AOI4-PE-22
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-PE-14	AOI4-PE-15	AOI4-PE-16	AOI4-PE-17	AOI4-PE-18	AOI4-PE-19	AOI4-PE-20	AOI4-PE-21	AOI4-PE-22
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	2	2	2.0 - 2.5	2	2	2	2	2	2
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/30/2018	7/30/2018	7/30/2018	7/30/2018	8/7/2018	8/7/2018	8/7/2018	8/7/2018	8/7/2018
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cumene	10000	10000	2500	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	130	190000	340	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	91	190000	46	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	76	190000	170	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	190000	190000	180	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	760	190000	230	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	130000	190000	3800	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	190000	190000	10000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	96000	190000	2200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Lead	1000	190000	450	28600 (27.4)	55.3 (1.36)	105 (1.43)	4240 (13.2)	25600 (62.4)	31700 (62)	38300 (73.5)	35600 (71.4)	7500 (12.7)

Notes:

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2 Only Short List 1-6 analytes are shown.
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Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-PE-23	AOI4-PE-24	AOI4-PE-25	AOI4-PE-26	AOI4-PE-27	AOI4-PE-28	AOI4-PE-29	AOI4-PE-30	AOI4-PE-31
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-PE-23	AOI4-PE-24	AOI4-PE-25	AOI4-PE-26	AOI4-PE-27	AOI4-PE-28	AOI4-PE-29	AOI4-PE-30	AOI4-PE-31
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	2	2	2	2	2	2	2	2	2
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/7/2018	8/7/2018	8/7/2018	8/7/2018	8/7/2018	8/7/2018	8/7/2018	8/7/2018	8/7/2018
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cumene	10000	10000	2500	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	130	190000	340	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	91	190000	46	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	76	190000	170	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	190000	190000	180	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	760	190000	230	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	130000	190000	3800	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	190000	190000	10000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	96000	190000	2200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Lead	1000	190000	450	132 (1.23)	295 (1.36)	1020 (1.42)	48.6 (1.85)	162 (1.82)	126 (1.84)	855 (1.76)	97.5 (1.77)	28100 (37)

Notes:
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2 Only Short List 1-6 analytes are shown.
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4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
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Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-PE-32	AOI4-PE-33	AOI4-PE-41	AOI4-PE-43	AOI4-PE-44	AOI4-PE-45	AOI4-PE-46	AOI4-PE-49	AOI4-PE-51
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-PE-32	AOI4-PE-33	AOI4-PE-41	AOI4-PE-43	AOI4-PE-44	AOI4-PE-45	AOI4-PE-46	AOI4-PE-49	AOI4-PE-51
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	2	2	2	2	2	2	2	2	2
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/7/2018	8/7/2018	8/9/2018	8/9/2018	8/9/2018	8/9/2018	8/9/2018	8/9/2018	8/9/2018
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cumene	10000	10000	2500	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	130	190000	340	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	91	190000	46	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	76	190000	170	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	190000	190000	180	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	760	190000	230	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	130000	190000	3800	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	190000	190000	10000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	96000	190000	2200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Lead	1000	190000	450	17400 (34.6)	82.8 (1.76)	368 (1.77)	8050 (7.06)	66400 (100)	2720 (6.41)	64.4 (1.77)	205 (1.69)	13300 (35.1)

Notes:
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2 Only Short List 1-6 analytes are shown.
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Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-PE-52	AOI4-PE-53	AOI4-PE-54	AOI4-PE-55	AOI4-PE-56	AOI4-PE-57	AOI4-PE-58	AOI4-PE-60	AOI4-PE-61
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-PE-52	AOI4-PE-53	AOI4-PE-54	AOI4-PE-55	AOI4-PE-56	AOI4-PE-57	AOI4-PE-58	AOI4-PE-60	AOI4-PE-61
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	2	2	2	2	2	2	2	2	2
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/9/2018	8/9/2018	8/9/2018	8/9/2018	8/9/2018	8/9/2018	8/9/2018	8/15/2018	8/15/2018
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cumene	10000	10000	2500	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	130	190000	340	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	91	190000	46	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	76	190000	170	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	190000	190000	180	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	760	190000	230	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	130000	190000	3800	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	190000	190000	10000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	96000	190000	2200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Lead	1000	190000	450	3310 (8.68)	6310 (8.88)	17400 (16.8)	11800 (16.2)	183 (9.02)	6040 (13.3)	1590 (17.4)	59600 (76.2)	2130 (145)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
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4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
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Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-PE-62	AOI4-PE-63	AOI4-PE-64	AOI4-PE-65	AST-845-LINE-1	AST-845-LINE-2	AST-845-LINE-3	AST-845-LINE-4	AST-845-LINE-5
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-PE-62	AOI4-PE-63	AOI4-PE-64	AOI4-PE-65	AST-845-LINE-1	AST-845-LINE-2	AST-845-LINE-3	AST-845-LINE-4	AST-845-LINE-5
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	2	2	2	2	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/15/2018	8/15/2018	8/16/2018	8/16/2018	3/14/2007	3/14/2007	3/14/2007	3/14/2007	3/14/2007
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	NA	NA	NA	NA	ND,D (0.097)	ND,D (0.12)	ND,D (0.1)	ND,D (0.12)	ND,D (0.13)
Cumene	10000	10000	2500	NA	NA	NA	NA	ND,D (0.097)	ND,D (0.12)	ND,D (0.1)	ND,D (0.12)	ND,D (0.13)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	NA	NA	NA	NA	ND,D (0.097)	0.068 J,D (0.12)	ND,D (0.1)	ND,D (0.12)	ND,D (0.13)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	NA	NA	NA	NA	ND,D (0.097)	ND,D (0.12)	ND,D (0.1)	ND,D (0.12)	ND,D (0.13)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	ND,D (0.097)	0.077 J,D (0.12)	ND,D (0.1)	0.09 J,D (0.12)	ND,D (0.13)
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	NA	NA	NA	NA	ND (0.42)	ND (0.41)	ND (0.39)	ND (0.4)	ND (0.37)
Benzo(a)anthracene	130	190000	340	NA	NA	NA	NA	ND (0.42)	ND (0.41)	ND (0.39)	ND (0.4)	0.49 (0.37)
Benzo(a)pyrene	91	190000	46	NA	NA	NA	NA	ND (0.42)	ND (0.41)	ND (0.39)	ND (0.4)	ND (0.37)
Benzo(b)fluoranthene	76	190000	170	NA	NA	NA	NA	ND (0.42)	ND (0.41)	ND (0.39)	0.47 (0.4)	0.53 (0.37)
Benzo(g,h,i)perylene	190000	190000	180	NA	NA	NA	NA	ND (0.42)	ND (0.41)	ND (0.39)	ND (0.4)	ND (0.37)
Chrysene	760	190000	230	NA	NA	NA	NA	ND (0.42)	0.45 (0.41)	ND (0.39)	ND (0.4)	0.49 (0.37)
Fluorene	130000	190000	3800	NA	NA	NA	NA	ND (0.42)	ND (0.41)	ND (0.39)	ND (0.4)	ND (0.37)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	ND (0.42)	ND (0.41)	ND (0.39)	ND (0.4)	ND (0.37)
Naphthalene	66	77	25	NA	NA	NA	NA	ND,D (0.097)	ND,D (0.12)	ND,D (0.1)	ND,D (0.12)	ND,D (0.13)
Phenanthrene	190000	190000	10000	NA	NA	NA	NA	ND (0.42)	0.64 (0.41)	ND (0.39)	ND (0.4)	0.66 (0.37)
Pyrene	96000	190000	2200	NA	NA	NA	NA	ND (0.42)	0.64 (0.41)	0.45 (0.39)	0.62 (0.4)	1 (0.37)
Metals												
Lead	1000	190000	450	29100 (74.4)	1370 (13.6)	10600 (16.9)	22500 (34.9)	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
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Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	MW-1	MW-1	MW-2	MW-3	MW-3	MW-4	MW-4	PB-252-LINE-1	PB-252-LINE-2
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	MW-1(1.5-2)	MW-1(11.5-12)	MW-2(0-2)	MW-3(1.5-2)	MW-3(15.5-16)	MW-4(1.5-2)	MW-4(11.5-12)	PB-252-LINE-1	PB-252-LINE-2
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	1.5 - 2.0	11.5 - 12.0	0.0 - 2.0	1.5 - 2.0	15.5 - 16.0	1.5 - 2.0	11.5 - 12.0	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	5/29/2003	5/29/2003	5/29/2003	5/29/2003	5/29/2003	5/29/2003	5/29/2003	5/30/2007	5/30/2007
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.24)	ND (0.26)	0.087 J	ND (0.25)	0.065 J	0.054 J	ND (0.25)	ND,D (0.28)	ND,D (0.21)
Cumene	10000	10000	2500	NA	NA	NA	NA	NA	NA	NA	ND,D (0.28)	ND,D (0.21)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	NA	NA	NA	NA	NA	NA	NA	0.15 J,D (0.28)	ND,D (0.21)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	NA	NA	NA	NA	NA	NA	NA	ND,D (0.28)	ND,D (0.21)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	0.88	ND (0.36)	0.29 J	0.35 J	ND (0.36)	0.33 J	ND (0.41)	NA	NA
Benzo(a)anthracene	130	190000	340	2.1	ND (0.36)	0.73	2.7	ND (0.36)	0.93	ND (0.41)	NA	NA
Benzo(a)pyrene	91	190000	46	1.9	ND (0.36)	0.8	5 D	ND (0.36)	1.1	ND (0.41)	NA	NA
Benzo(b)fluoranthene	76	190000	170	2	ND (0.36)	0.69	3.9	ND (0.36)	0.98	ND (0.41)	NA	NA
Benzo(g,h,i)perylene	190000	190000	180	0.71	ND (0.36)	0.37 J	1.8	ND (0.36)	0.5	ND (0.41)	NA	NA
Chrysene	760	190000	230	2.1	ND (0.36)	0.73	2.5	ND (0.36)	0.91	ND (0.41)	NA	NA
Fluorene	130000	190000	3800	0.39	ND (0.36)	ND (0.39)	ND (0.37)	0.6	ND (0.39)	ND (0.41)	ND (0.36)	ND (0.36)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.24)	ND (0.26)	0.055 J	ND (0.25)	3.4	0.075 J	ND (0.25)	ND,D (0.28)	0.17 J,D (0.21)
Phenanthrene	190000	190000	10000	3.1	ND (0.36)	1.1	0.86	1.4	1.2	ND (0.41)	ND (0.36)	0.55 (0.36)
Pyrene	96000	190000	2200	3.2	ND (0.36)	1.2	1.8	ND (0.36)	1.1	0.26 J	NA	NA
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
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4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-252-LINE-4	PB-252-LINE-5	PB-252-LINE-6	PB-252-PER-1	PB-252-PER-2	PB-252-PER-3	PB-252-PER-4	PB-252-PER-5	PB-252-PER-6
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-252-LINE-4	PB-252-LINE-5	PB-252-LINE-6	PB-252-PER-1	PB-252-PER-2	PB-252-PER-3	PB-252-PER-4	PB-252-PER-5	PB-252-PER-6
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	6.0 - 6.5	6.0 - 6.5	6.0 - 6.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	22 D (1.7)	1.6 D (0.15)	0.71 D (0.18)	10 D (1.7)	2.2 D (0.17)	0.72 D (0.19)	1.7 D (0.18)	2.1 D (0.16)	4.7 D (0.18)
Cumene	10000	10000	2500	11 D (1.7)	9.9 D (1.5)	14 D (0.18)	7.5 D (1.7)	12 D (0.17)	11 D (0.19)	6.4 D (0.18)	2.7 D (0.16)	2.3 D (0.18)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	73 D (1.7)	63 D (1.5)	6.7 D (0.18)	37 D (1.7)	35 D (1.7)	23 D (1.9)	18 D (1.8)	6.4 D (0.16)	9.3 D (0.18)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	94 D (1.7)	51 D (1.5)	0.45 D (0.18)	7.5 D (1.7)	0.42 D (0.17)	0.59 D (0.19)	0.72 D (0.18)	0.3 D (0.16)	2.7 D (0.18)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	130	190000	340	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	91	190000	46	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	76	190000	170	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	190000	190000	180	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	760	190000	230	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	130000	190000	3800	1.6 (0.42)	2.6 (0.41)	2.1 (0.41)	ND (0.4)	ND (0.38)	ND (0.42)	ND (0.42)	4.2 (0.39)	0.42 (0.39)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	49 D (1.7)	43 D (1.5)	7.9 D (0.18)	29 D (1.7)	4.8 D (0.17)	29 D (1.9)	12 D (0.18)	26 D (1.6)	3.8 D (0.18)
Phenanthrene	190000	190000	10000	2.5 (0.42)	4.4 (0.41)	4.1 (0.41)	7.9 D (0.79)	0.48 (0.38)	0.23 J (0.42)	3.9 (0.42)	14 D (2)	1 (0.39)
Pyrene	96000	190000	2200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
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4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

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Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-252-SUB-1	PB-252-SUB-2	PB-252-SUB-3	PB-826-1	PB-826-2	PB-826-3	PB-826-4	PB-826-5	PB-826-6
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-252-SUB-1	PB-252-SUB-2	PB-252-SUB-3	826-1	826-2	826-3	826-4	826-5	826-6
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	5.0 - 5.5	5.0 - 5.5	5.0 - 5.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	5/30/2007	5/30/2007	5/30/2007	9/7/2004	9/7/2004	9/7/2004	9/7/2004	9/7/2004	9/7/2004
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND,D (0.26)	4.7 D (0.31)	ND,D (0.3)	ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.0021)
Cumene	10000	10000	2500	ND,D (0.26)	11 D (0.31)	ND,D (0.3)	ND (0.0047)	ND (0.0049)	ND (0.0048)	ND (0.005)	ND (0.0049)	ND (0.0052)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND,D (0.26)	44 D (3.1)	ND,D (0.3)	ND (0.0019)	0.0025 J (0.002)	0.0022 J (0.0019)	ND (0.002)	ND (0.0019)	ND (0.0021)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND,D (0.26)	5.2 D (0.31)	ND,D (0.3)	0.0027 J (0.0019)	0.0054 (0.002)	0.0043 J (0.0019)	ND (0.002)	0.0027 J (0.0019)	ND (0.0021)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	NA	NA	NA	0.068 (0.0034)	0.23 (0.0035)	0.023 J (0.0034)	0.016 (0.00072)	0.0056 J (0.00069)	0.00085 J (0.0007)
Benzo(a)anthracene	130	190000	340	NA	NA	NA	0.24 (0.0075)	0.88 (0.031)	0.11 (0.0076)	0.083 (0.0016)	0.027 (0.0015)	0.0056 J (0.0016)
Benzo(a)pyrene	91	190000	46	NA	NA	NA	0.25 (0.011)	0.8 (0.046)	0.16 (0.011)	0.1 (0.0024)	0.032 (0.0023)	0.0085 J (0.0023)
Benzo(b)fluoranthene	76	190000	170	NA	NA	NA	0.21 (0.015)	0.71 (0.062)	0.13 (0.015)	0.086 (0.0032)	0.027 (0.0031)	0.0069 J (0.0031)
Benzo(g,h,i)perylene	190000	190000	180	NA	NA	NA	0.42 (0.015)	1 (0.015)	0.28 (0.015)	0.17 (0.0032)	0.052 (0.0031)	0.013 J (0.0031)
Chrysene	760	190000	230	NA	NA	NA	0.23 (0.011)	0.82 (0.012)	0.13 (0.011)	0.089 (0.0024)	0.028 (0.0023)	0.0064 J (0.0023)
Fluorene	130000	190000	3800	ND (0.38)	ND (0.41)	ND (0.43)	0.033 J (0.023)	0.11 J (0.023)	ND (0.023)	0.012 J (0.0048)	ND (0.0046)	ND (0.0047)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	0.097 (0.019)	0.5 (0.019)	0.071 J (0.019)	0.046 (0.004)	0.024 (0.0039)	0.004 J (0.0039)
Naphthalene	66	77	25	0.26 J,D (0.26)	24 D (0.31)	ND,D (0.3)	ND (0.0095)	0.016 J (0.0098)	0.015 J (0.0096)	ND (0.01)	ND (0.0097)	ND (0.01)
Phenanthrene	190000	190000	10000	ND (0.38)	ND (0.41)	ND (0.43)	0.39 (0.011)	1.5 (0.012)	0.15 (0.011)	0.12 (0.0024)	0.031 (0.0023)	0.0059 J (0.0023)
Pyrene	96000	190000	2200	NA	NA	NA	0.78 (0.026)	2.4 (0.027)	0.44 (0.027)	0.25 (0.0056)	0.076 (0.0054)	0.017 J (0.0055)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
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Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-826-7	PB-826-8	PB-826-9	PB-843 LINE 1	PB-843 LINE 2	PB-843 LINE 3	PB-843 LINE 4	PB-843 LINE 5	PB-843 LINE 6
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	826-7	826-8	826-9	843 Line 1	843 Line 2	843 Line 3	843 Line 4	843 Line 5	843 Line 6
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	9/7/2004	9/7/2004	9/7/2004	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.0021)	ND (0.0021)	ND (0.002)	ND (0.028)	ND (0.028)	ND (0.026)	ND (0.025)	ND (0.027)	ND (0.029)
Cumene	10000	10000	2500	ND (0.0052)	ND (0.0052)	ND (0.005)	0.11 J (0.056)	ND (0.055)	ND (0.052)	ND (0.05)	ND (0.055)	1.4 (0.057)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.0021)	0.0048 J (0.0021)	ND (0.002)	ND (0.056)	ND (0.055)	ND (0.052)	ND (0.05)	ND (0.055)	ND (0.057)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.0021)	0.0081 (0.0021)	0.0036 J (0.002)	ND (0.056)	ND (0.055)	ND (0.052)	ND (0.05)	ND (0.055)	ND (0.057)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.00071)	0.023 J (0.0034)	0.025 (0.00068)	0.14 J (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.078)
Benzo(a)anthracene	130	190000	340	0.0041 J (0.0016)	0.11 (0.0075)	0.048 (0.0015)	0.12 J (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	0.13 J (0.078)
Benzo(a)pyrene	91	190000	46	0.0061 J (0.0024)	0.11 (0.011)	0.047 (0.0023)	0.067 J (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	0.1 J (0.078)
Benzo(b)fluoranthene	76	190000	170	0.0048 J (0.0031)	0.11 (0.015)	0.047 (0.003)	0.086 J (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	0.1 J (0.078)
Benzo(g,h,i)perylene	190000	190000	180	0.011 J (0.0031)	0.17 (0.015)	0.068 (0.003)	ND (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.078)
Chrysene	760	190000	230	0.0053 J (0.0024)	0.098 (0.011)	0.074 (0.0023)	0.1 J (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	0.23 J (0.078)
Fluorene	130000	190000	3800	ND (0.0047)	ND (0.023)	0.021 J (0.0045)	0.39 (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	1 (0.078)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.0039)	0.06 J (0.019)	0.02 (0.0038)	ND (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.078)
Naphthalene	66	77	25	ND (0.01)	ND (0.01)	ND (0.0099)	ND (0.056)	ND (0.055)	ND (0.052)	ND (0.05)	ND (0.055)	0.067 J (0.057)
Phenanthrene	190000	190000	10000	0.0051 J (0.0024)	0.13 (0.011)	0.18 (0.0023)	0.8 (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	2.2 (0.078)
Pyrene	96000	190000	2200	0.014 J (0.0055)	0.28 (0.026)	0.17 (0.0053)	0.31 (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	0.37 J (0.078)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-843 LINE 7	PB-843 LINE 8	PB-843 LINE 9	PB-843 PERIMETER 1	PB-843 PERIMETER 2	PB-843 PERIMETER 3	PB-843 PERIMETER 4	PB-843 PERIMETER 5	PB-843 PERIMETER 6
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	843 Line 7	843 Line 8	843 Line 9	843 Perimeter 1	843 Perimeter 2	843 Perimeter 3	843 Perimeter 4	843 Perimeter 5	843 Perimeter 6
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.025)	ND (0.027)	0.035 J (0.026)	ND (0.031)	0.037 J (0.028)	ND (0.026)	ND (0.024)	ND (0.024)	ND (0.024)
Cumene	10000	10000	2500	ND (0.049)	ND (0.055)	ND (0.052)	ND (0.063)	ND (0.055)	ND (0.053)	ND (0.049)	ND (0.047)	ND (0.048)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.049)	ND (0.055)	ND (0.052)	ND (0.063)	ND (0.055)	ND (0.053)	ND (0.049)	ND (0.047)	ND (0.048)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.049)	ND (0.055)	ND (0.052)	ND (0.063)	ND (0.055)	ND (0.053)	ND (0.049)	ND (0.047)	ND (0.048)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.037)	ND (0.18)	ND (0.037)	ND (0.04)	0.6 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Benzo(a)anthracene	130	190000	340	0.31 (0.037)	0.34 J (0.18)	0.087 J (0.037)	ND (0.04)	0.86 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Benzo(a)pyrene	91	190000	46	0.34 (0.037)	0.4 J (0.18)	0.065 J (0.037)	ND (0.04)	0.51 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Benzo(b)fluoranthene	76	190000	170	0.49 (0.037)	0.62 J (0.18)	0.099 J (0.037)	ND (0.04)	0.64 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Benzo(g,h,i)perylene	190000	190000	180	0.28 (0.037)	0.57 J (0.18)	0.085 J (0.037)	ND (0.04)	0.23 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Chrysene	760	190000	230	0.41 (0.037)	0.47 J (0.18)	0.11 J (0.037)	ND (0.04)	0.77 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Fluorene	130000	190000	3800	ND (0.037)	ND (0.18)	ND (0.037)	ND (0.04)	0.3 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Indeno(1,2,3-cd)pyrene	76	190000	18000	0.3 (0.037)	0.4 J (0.18)	0.054 J (0.037)	ND (0.04)	0.28 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Naphthalene	66	77	25	ND (0.049)	ND (0.055)	ND (0.052)	ND (0.063)	ND (0.055)	ND (0.053)	ND (0.049)	ND (0.047)	ND (0.048)
Phenanthrene	190000	190000	10000	0.14 J (0.037)	0.26 J (0.18)	0.16 J (0.037)	ND (0.04)	2.1 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Pyrene	96000	190000	2200	0.49 (0.037)	0.53 J (0.18)	0.17 J (0.037)	ND (0.04)	1.5 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-843 SUB 1	PB-843 SUB 2	PB-843 SUB 3	PB-844 LINE 1	PB-844 LINE 10	PB-844 LINE 2	PB-844 LINE 3	PB-844 LINE 4	PB-844 LINE 5
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	843 Sub 1	843 Sub 2	843 Sub 3	844 Line 1	844 Line 10	844 Line 2	844 Line 3	844 Line 4	844 Line 5
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	5.0 - 5.5	5.0 - 5.5	5.0 - 5.5	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.023)	ND (0.024)	ND (0.023)	ND (0.027)	2.4 (0.096)	ND (0.026)	ND (0.029)	ND (0.03)	0.034 J (0.029)
Cumene	10000	10000	2500	ND (0.045)	ND (0.048)	ND (0.047)	ND (0.055)	4.2 (0.19)	ND (0.053)	ND (0.057)	ND (0.06)	ND (0.058)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.045)	ND (0.048)	ND (0.047)	ND (0.055)	8.3 (0.19)	ND (0.053)	ND (0.057)	ND (0.06)	ND (0.058)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.045)	ND (0.048)	ND (0.047)	ND (0.055)	ND (0.19)	ND (0.053)	ND (0.057)	ND (0.06)	ND (0.058)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	4 (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	0.078 J (0.041)
Benzo(a)anthracene	130	190000	340	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	0.54 (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	0.31 (0.041)
Benzo(a)pyrene	91	190000	46	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	0.1 J (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	0.31 (0.041)
Benzo(b)fluoranthene	76	190000	170	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	0.066 J (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	0.32 (0.041)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	ND (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	0.17 J (0.041)
Chrysene	760	190000	230	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	0.56 (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	0.27 (0.041)
Fluorene	130000	190000	3800	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	2.2 (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	ND (0.041)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	0.038 J (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	0.16 J (0.041)
Naphthalene	66	77	25	ND (0.045)	ND (0.048)	ND (0.047)	ND (0.055)	12 (0.19)	ND (0.053)	ND (0.057)	ND (0.06)	ND (0.058)
Phenanthrene	190000	190000	10000	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	4.1 (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	0.23 (0.041)
Pyrene	96000	190000	2200	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	0.43 (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	0.29 (0.041)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-844 LINE 6	PB-844 LINE 7	PB-844 LINE 8	PB-844 LINE 9	PB-844 PERIMETER 1	PB-844 PERIMETER 2	PB-844 PERIMETER 3	PB-844 PERIMETER 4	PB-844 PERIMETER 5
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	844 Line 6	844 Line 7	844 Line 8	844 Line 9	844 Perimeter 1	844 Perimeter 2	844 Perimeter 3	844 Perimeter 4	844 Perimeter 5
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.03)	ND (0.029)	0.067 J (0.027)	0.035 J (0.027)	ND (0.026)	ND (0.029)	ND (0.026)	0.38 (0.031)	ND (0.027)
Cumene	10000	10000	2500	ND (0.061)	ND (0.058)	ND (0.054)	0.34 (0.054)	ND (0.052)	ND (0.058)	ND (0.053)	ND (0.061)	0.073 J (0.053)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.061)	ND (0.058)	ND (0.054)	0.22 J (0.054)	ND (0.052)	ND (0.058)	ND (0.053)	0.32 (0.061)	ND (0.053)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.061)	ND (0.058)	ND (0.054)	ND (0.054)	ND (0.052)	ND (0.058)	ND (0.053)	0.52 (0.061)	ND (0.053)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.041)	ND (0.04)	ND (0.04)	ND (0.041)	0.17 J (0.038)	0.25 (0.039)	0.15 J (0.039)	0.92 (0.042)	0.48 (0.039)
Benzo(a)anthracene	130	190000	340	ND (0.041)	0.057 J (0.04)	0.11 J (0.04)	0.17 J (0.041)	0.57 (0.038)	0.64 (0.039)	0.53 (0.039)	2.3 (0.042)	0.11 J (0.039)
Benzo(a)pyrene	91	190000	46	ND (0.041)	0.054 J (0.04)	0.11 J (0.04)	0.2 (0.041)	0.68 (0.038)	0.51 (0.039)	0.5 (0.039)	1.8 (0.042)	0.068 J (0.039)
Benzo(b)fluoranthene	76	190000	170	ND (0.041)	0.054 J (0.04)	0.13 J (0.04)	0.19 J (0.041)	0.72 (0.038)	0.56 (0.039)	0.53 (0.039)	2.1 (0.042)	0.093 J (0.039)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.041)	ND (0.04)	0.082 J (0.04)	0.15 J (0.041)	0.44 (0.038)	0.32 (0.039)	0.28 (0.039)	1 (0.042)	ND (0.039)
Chrysene	760	190000	230	ND (0.041)	0.056 J (0.04)	0.12 J (0.04)	0.45 (0.041)	0.52 (0.038)	0.6 (0.039)	0.49 (0.039)	1.9 (0.042)	0.12 J (0.039)
Fluorene	130000	190000	3800	ND (0.041)	ND (0.04)	ND (0.04)	0.97 (0.041)	0.075 J (0.038)	0.1 J (0.039)	0.075 J (0.039)	0.42 (0.042)	1.2 (0.039)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.041)	ND (0.04)	0.073 J (0.04)	0.14 J (0.041)	0.54 (0.038)	0.35 (0.039)	0.32 (0.039)	1.2 (0.042)	0.048 J (0.039)
Naphthalene	66	77	25	ND (0.061)	ND (0.058)	ND (0.054)	0.95 (0.054)	ND (0.052)	ND (0.058)	ND (0.053)	0.13 J (0.061)	ND (0.053)
Phenanthrene	190000	190000	10000	ND (0.041)	0.056 J (0.04)	0.076 J (0.04)	1.9 (0.041)	0.55 (0.038)	0.71 (0.039)	0.6 (0.039)	3 (0.042)	3.4 (0.039)
Pyrene	96000	190000	2200	ND (0.041)	0.069 J (0.04)	0.14 J (0.04)	0.32 (0.041)	0.62 (0.038)	0.9 (0.039)	0.66 (0.039)	3 (0.042)	0.38 (0.039)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-844 PERIMETER 6	PB-844 SUB 1	PB-844 SUB 2	PB-844 SUB 3	PB-845 PERIMETER 1	PB-845 PERIMETER 2	PB-845 PERIMETER 3	PB-845 PERIMETER 4	PB-845 PERIMETER 5
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	844 Perimeter 6	844 Sub 1	844 Sub 2	844 Sub 3	845 Perimeter 1	845 Perimeter 2	845 Perimeter 3	845 Perimeter 4	845 Perimeter 5
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	3.0 - 3.5	5.0 - 5.5	5.0 - 5.5	5.0 - 5.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.027)	0.031 J (0.026)	ND (0.028)	0.095 J (0.027)	ND (0.028)	ND (0.026)	ND (0.029)	ND (0.028)	ND (0.029)
Cumene	10000	10000	2500	ND (0.054)	ND (0.052)	ND (0.056)	ND (0.054)	ND (0.057)	ND (0.052)	ND (0.057)	ND (0.056)	0.18 J (0.057)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.054)	ND (0.052)	ND (0.056)	ND (0.054)	ND (0.057)	ND (0.052)	ND (0.057)	ND (0.056)	ND (0.057)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.054)	ND (0.052)	ND (0.056)	0.078 J (0.054)	ND (0.057)	ND (0.052)	ND (0.057)	ND (0.056)	ND (0.057)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	0.32 (0.038)	0.14 J (0.04)	ND (0.04)	0.078 J (0.039)	ND (0.04)	1.2 (0.039)	0.43 (0.039)	0.24 (0.038)	ND (0.2)
Benzo(a)anthracene	130	190000	340	0.78 (0.038)	0.21 (0.04)	ND (0.04)	0.11 J (0.039)	ND (0.04)	2.8 (0.039)	1.5 (0.039)	0.75 (0.038)	0.59 J (0.2)
Benzo(a)pyrene	91	190000	46	0.69 (0.038)	0.14 J (0.04)	ND (0.04)	0.089 J (0.039)	0.044 J (0.04)	2.3 (0.039)	1.4 (0.039)	0.68 (0.038)	0.65 J (0.2)
Benzo(b)fluoranthene	76	190000	170	0.87 (0.038)	0.15 J (0.04)	ND (0.04)	0.097 J (0.039)	0.05 J (0.04)	2.8 (0.039)	1.6 (0.039)	0.88 (0.038)	1.2 (0.2)
Benzo(g,h,i)perylene	190000	190000	180	0.42 (0.038)	0.073 J (0.04)	ND (0.04)	0.13 J (0.039)	0.056 J (0.04)	1.4 (0.039)	0.84 (0.039)	0.46 (0.038)	0.72 J (0.2)
Chrysene	760	190000	230	0.74 (0.038)	0.2 (0.04)	ND (0.04)	0.15 J (0.039)	0.068 J (0.04)	2.8 (0.039)	1.5 (0.039)	0.74 (0.038)	3.1 (0.2)
Fluorene	130000	190000	3800	0.15 J (0.038)	0.067 J (0.04)	ND (0.04)	ND (0.039)	ND (0.04)	0.51 (0.039)	0.18 J (0.039)	0.13 J (0.038)	0.59 J (0.2)
Indeno(1,2,3-cd)pyrene	76	190000	18000	0.49 (0.038)	0.087 J (0.04)	ND (0.04)	0.088 J (0.039)	ND (0.04)	1.4 (0.039)	0.81 (0.039)	0.43 (0.038)	0.48 J (0.2)
Naphthalene	66	77	25	ND (0.054)	ND (0.052)	ND (0.056)	ND (0.054)	ND (0.057)	0.12 J (0.052)	ND (0.057)	ND (0.056)	1.2 (0.057)
Phenanthrene	190000	190000	10000	1 (0.038)	0.52 (0.04)	ND (0.04)	0.18 J (0.039)	ND (0.04)	4.3 (0.078)	2 (0.039)	0.97 (0.038)	1.8 (0.2)
Pyrene	96000	190000	2200	1.1 (0.038)	0.37 (0.04)	ND (0.04)	0.17 J (0.039)	0.057 J (0.04)	4.4 (0.078)	2.6 (0.039)	1.3 (0.038)	2 (0.2)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-845 SUB 1	PB-845 SUB 2	PB-845 SUB 3	PB-845-PER-6	PB-846 LINE 1	PB-846 LINE 2	PB-846 LINE 3	PB-846 LINE 4	PB-846 LINE 5
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	845 Sub 1	845 Sub 2	845 Sub 3	PB-845-PER-6	846 Line 1	846 Line 2	846 Line 3	846 Line 4	846 Line 5
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	5.0 - 5.5	5.0 - 5.5	5.0 - 5.5	3.0 - 3.5	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/24/2006	8/24/2006	8/24/2006	2/12/2008	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.028)	ND (0.029)	ND (0.027)	ND (0.025)	ND (0.026)	ND (0.027)	ND (0.028)	0.037 J (0.029)	0.22 J (0.027)
Cumene	10000	10000	2500	ND (0.055)	ND (0.058)	ND (0.054)	ND (0.05)	ND (0.051)	ND (0.054)	ND (0.055)	0.16 J (0.059)	0.29 (0.054)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.055)	ND (0.058)	ND (0.054)	ND (0.05)	ND (0.051)	ND (0.054)	ND (0.055)	ND (0.059)	0.62 (0.054)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.055)	ND (0.058)	ND (0.054)	ND (0.05)	ND (0.051)	ND (0.054)	ND (0.055)	ND (0.059)	0.12 J (0.054)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	0.4 (0.039)	0.11 J (0.04)	0.59 (0.038)	ND (0.036)	0.038 J (0.035)	ND (0.036)	ND (0.039)	0.12 J (0.036)	0.16 J (0.039)
Benzo(a)anthracene	130	190000	340	1.2 (0.039)	0.11 J (0.04)	0.64 (0.038)	ND (0.036)	0.066 J (0.035)	ND (0.036)	ND (0.039)	0.1 J (0.036)	0.38 (0.039)
Benzo(a)pyrene	91	190000	46	0.86 (0.039)	0.085 J (0.04)	0.44 (0.038)	0.052 J (0.036)	0.05 J (0.035)	ND (0.036)	ND (0.039)	0.038 J (0.036)	0.32 (0.039)
Benzo(b)fluoranthene	76	190000	170	1.2 (0.039)	0.12 J (0.04)	0.65 (0.038)	0.064 J (0.036)	0.063 J (0.035)	ND (0.036)	ND (0.039)	0.061 J (0.036)	0.43 (0.039)
Benzo(g,h,i)perylene	190000	190000	180	0.48 (0.039)	0.051 J (0.04)	0.25 (0.038)	0.074 J (0.036)	ND (0.035)	ND (0.036)	ND (0.039)	ND (0.036)	0.21 (0.039)
Chrysene	760	190000	230	1.2 (0.039)	0.14 J (0.04)	0.66 (0.038)	0.064 J (0.036)	0.067 J (0.035)	ND (0.036)	ND (0.039)	0.29 (0.036)	0.51 (0.039)
Fluorene	130000	190000	3800	0.19 J (0.039)	0.19 J (0.04)	0.52 (0.038)	ND (0.036)	ND (0.035)	ND (0.036)	ND (0.039)	0.73 (0.036)	0.38 (0.039)
Indeno(1,2,3-cd)pyrene	76	190000	18000	0.53 (0.039)	0.061 J (0.04)	0.27 (0.038)	0.039 J (0.036)	ND (0.035)	ND (0.036)	ND (0.039)	ND (0.036)	0.2 (0.039)
Naphthalene	66	77	25	0.067 J (0.055)	0.31 (0.058)	0.45 (0.054)	0.074 J (0.05)	0.14 J (0.051)	ND (0.054)	ND (0.055)	0.14 J (0.059)	0.76 (0.054)
Phenanthrene	190000	190000	10000	1.7 (0.039)	0.62 (0.04)	1.9 (0.038)	ND (0.036)	0.12 J (0.035)	ND (0.036)	ND (0.039)	1.9 (0.036)	1.6 (0.039)
Pyrene	96000	190000	2200	2.2 (0.039)	0.28 (0.04)	1.3 (0.038)	0.046 J (0.036)	0.12 J (0.035)	0.045 J (0.036)	ND (0.039)	0.3 (0.036)	0.68 (0.039)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-846 LINE 6	PB-846 LINE 7	PB-846 PERIMETER 1	PB-846 PERIMETER 2	PB-846 PERIMETER 3	PB-846 PERIMETER 4	PB-846 PERIMETER 5	PB-846 PERIMETER 6	PB-846 SUB 1
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	846 Line 6	846 Line 7	846 Perimeter 1	846 Perimeter 2	846 Perimeter 3	846 Perimeter 4	846 Perimeter 5	846 Perimeter 6	846 Sub 1
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	5.5 - 6.0	5.5 - 6.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	5.0 - 5.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	0.12 J (0.026)	0.029 J (0.028)	5 (0.027)	0.039 J (0.026)	ND (0.027)	ND (0.028)	ND (0.026)	0.12 J (0.026)	ND (0.025)
Cumene	10000	10000	2500	ND (0.052)	ND (0.056)	6.5 (0.053)	ND (0.052)	ND (0.054)	ND (0.057)	ND (0.052)	0.063 J (0.052)	ND (0.049)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.052)	ND (0.056)	1.8 (0.053)	ND (0.052)	ND (0.054)	ND (0.057)	ND (0.052)	0.063 J (0.052)	ND (0.049)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	0.1 J (0.052)	ND (0.056)	0.28 (0.053)	ND (0.052)	ND (0.054)	ND (0.057)	ND (0.052)	ND (0.052)	ND (0.049)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	0.24 (0.035)	0.22 (0.038)	2 (0.038)	0.086 J (0.039)	1.5 (0.039)	0.19 J (0.039)	ND (0.039)	2 (0.039)	ND (0.038)
Benzo(a)anthracene	130	190000	340	0.37 (0.035)	0.58 (0.038)	3.4 (0.038)	0.17 J (0.039)	3.9 (0.039)	1.3 (0.039)	ND (0.039)	3.5 (0.039)	ND (0.038)
Benzo(a)pyrene	91	190000	46	0.2 (0.035)	0.49 (0.038)	2.6 (0.038)	0.16 J (0.039)	3.3 (0.039)	1.4 (0.039)	ND (0.039)	2.4 (0.039)	ND (0.038)
Benzo(b)fluoranthene	76	190000	170	0.3 (0.035)	0.65 (0.038)	3.1 (0.038)	0.26 (0.039)	4.4 (0.039)	1.8 (0.039)	ND (0.039)	3.2 (0.039)	ND (0.038)
Benzo(g,h,i)perylene	190000	190000	180	0.12 J (0.035)	0.34 (0.038)	1.4 (0.038)	0.2 (0.039)	1.8 (0.039)	0.63 (0.039)	ND (0.039)	1.4 (0.039)	ND (0.038)
Chrysene	760	190000	230	0.85 (0.035)	0.55 (0.038)	4 (0.038)	0.28 (0.039)	3.6 (0.039)	1.1 (0.039)	ND (0.039)	3.4 (0.039)	ND (0.038)
Fluorene	130000	190000	3800	0.55 (0.035)	0.14 J (0.038)	4.2 (0.038)	0.09 J (0.039)	0.57 (0.039)	0.11 J (0.039)	ND (0.039)	1.7 (0.039)	ND (0.038)
Indeno(1,2,3-cd)pyrene	76	190000	18000	0.096 J (0.035)	0.33 (0.038)	1.4 (0.038)	0.13 J (0.039)	1.9 (0.039)	0.73 (0.039)	ND (0.039)	1.4 (0.039)	ND (0.038)
Naphthalene	66	77	25	0.062 J (0.052)	0.1 J (0.056)	2.3 (0.053)	0.095 J (0.052)	0.16 J (0.054)	ND (0.057)	ND (0.052)	1.1 (0.052)	ND (0.049)
Phenanthrene	190000	190000	10000	1.4 (0.035)	0.73 (0.038)	9.3 (0.19)	0.3 (0.039)	4.9 (0.19)	0.69 (0.039)	ND (0.039)	9.1 (0.2)	ND (0.038)
Pyrene	96000	190000	2200	0.88 (0.035)	1 (0.038)	4.1 (0.038)	0.35 (0.039)	6.3 (0.19)	1.1 (0.039)	ND (0.039)	7.2 (0.2)	ND (0.038)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-846 SUB 2	PB-846 SUB 3	PB-847-1	PB-847-2	PB-847-3	PB-847-4	PB-847-5	PB-847-6	PB-848 LINE 1
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	846 Sub 2	846 Sub 3	AST-847-1/0-0.5	AST-847-2/0-0.5	AST-847-3/0-0.5	AST-847-4/0-0.5	AST-847-5/0-0.5	AST-847-6/0-0.5	848 Line 1
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	5.0 - 5.5	5.0 - 5.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/24/2006	8/24/2006	10/16/2006	10/16/2006	10/16/2006	10/16/2006	10/16/2006	10/16/2006	8/24/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.025)	0.027 J (0.026)	ND (0.028)	ND (0.028)	ND (0.027)	ND (0.028)	ND (0.028)	ND (0.028)	ND (0.025)
Cumene	10000	10000	2500	ND (0.05)	ND (0.053)	ND (0.056)	ND (0.057)	ND (0.054)	ND (0.057)	ND (0.055)	ND (0.056)	ND (0.05)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.05)	ND (0.053)	ND (0.056)	ND (0.057)	ND (0.054)	ND (0.057)	ND (0.055)	ND (0.056)	ND (0.05)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.05)	ND (0.053)	ND (0.056)	ND (0.057)	ND (0.054)	ND (0.057)	ND (0.055)	ND (0.056)	ND (0.05)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	ND (0.056)	ND (0.057)	ND (0.054)	ND (0.057)	ND (0.055)	ND (0.056)	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.036)	1.6 (0.04)	ND (0.036)	0.061 J (0.038)	ND (0.038)	ND (0.039)	ND (0.038)	ND (0.039)	ND (0.18)
Benzo(a)anthracene	130	190000	340	ND (0.036)	3.8 (0.04)	ND (0.036)	0.17 J (0.038)	ND (0.038)	ND (0.039)	ND (0.038)	ND (0.039)	ND (0.18)
Benzo(a)pyrene	91	190000	46	ND (0.036)	2.9 (0.04)	ND (0.036)	0.18 J (0.038)	ND (0.038)	ND (0.039)	ND (0.038)	ND (0.039)	0.23 J (0.18)
Benzo(b)fluoranthene	76	190000	170	ND (0.036)	3.6 (0.04)	0.046 J (0.036)	0.16 J (0.038)	ND (0.038)	ND (0.039)	0.043 J (0.038)	ND (0.039)	ND (0.18)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.036)	2 (0.04)	ND (0.036)	0.091 J (0.038)	ND (0.038)	ND (0.039)	ND (0.038)	ND (0.039)	ND (0.18)
Chrysene	760	190000	230	ND (0.036)	3.7 (0.04)	0.079 J (0.036)	0.13 J (0.038)	ND (0.038)	ND (0.039)	0.048 J (0.038)	ND (0.039)	0.36 J (0.18)
Fluorene	130000	190000	3800	ND (0.036)	1.1 (0.04)	ND (0.036)	ND (0.038)	ND (0.038)	ND (0.039)	ND (0.038)	ND (0.039)	ND (0.18)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.036)	1.8 (0.04)	ND (0.036)	0.091 J (0.038)	ND (0.038)	ND (0.039)	ND (0.038)	ND (0.039)	ND (0.18)
Naphthalene	66	77	25	ND (0.05)	0.16 J (0.053)	ND (0.056)	ND (0.057)	ND (0.054)	ND (0.057)	ND (0.055)	0.063 J (0.056)	ND (0.05)
Phenanthrene	190000	190000	10000	ND (0.036)	6.2 (0.12)	0.043 J (0.036)	0.3 (0.038)	ND (0.038)	ND (0.039)	0.081 J (0.038)	ND (0.039)	ND (0.18)
Pyrene	96000	190000	2200	ND (0.036)	6.4 (0.12)	0.05 J (0.036)	0.31 (0.038)	ND (0.038)	ND (0.039)	0.085 J (0.038)	ND (0.039)	ND (0.18)
Metals												
Lead	1000	190000	450	NA	NA	268 (0.464)	185 (0.493)	177 (0.497)	35.1 (0.516)	154 (0.492)	15.8 (0.505)	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-848 LINE 2	PB-848 LINE 3	PB-848 LINE 6	PB-848 LINE 7	PB-848 PERIMETER 1	PB-848 PERIMETER 2	PB-848 PERIMETER 3	PB-848 PERIMETER 6	PB-848 SUB 1
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	848 Line 2	848 Line 3	848 Line 6	848 Line 7	848 Perimeter 1	848 Perimeter 2	848 Perimeter 3	848 Perimeter 6	848 Sub 1
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	5.5 - 6.0	5.5 - 6.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	5.0 - 5.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.028)	ND (0.027)	ND (0.028)	0.1 J (0.028)	ND (0.028)	ND (0.027)	ND (0.027)	ND (0.028)	ND (0.03)
Cumene	10000	10000	2500	ND (0.055)	ND (0.054)	0.81 (0.055)	4.6 (0.055)	ND (0.055)	ND (0.053)	0.15 J (0.053)	ND (0.057)	ND (0.059)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.055)	ND (0.054)	ND (0.055)	0.26 J (0.055)	ND (0.055)	ND (0.053)	ND (0.053)	ND (0.057)	ND (0.059)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.055)	ND (0.054)	ND (0.055)	ND (0.055)	ND (0.055)	ND (0.053)	ND (0.053)	ND (0.057)	ND (0.059)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.037)	ND (0.039)	0.11 J (0.041)	0.35 (0.041)	ND (0.04)	ND (0.04)	0.06 J (0.039)	ND (0.039)	ND (0.04)
Benzo(a)anthracene	130	190000	340	0.075 J (0.037)	ND (0.039)	0.071 J (0.041)	0.16 J (0.041)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.04)
Benzo(a)pyrene	91	190000	46	0.058 J (0.037)	ND (0.039)	ND (0.041)	0.14 J (0.041)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.04)
Benzo(b)fluoranthene	76	190000	170	0.067 J (0.037)	ND (0.039)	ND (0.041)	0.12 J (0.041)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.04)
Benzo(g,h,i)perylene	190000	190000	180	0.059 J (0.037)	ND (0.039)	ND (0.041)	0.067 J (0.041)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.04)
Chrysene	760	190000	230	0.083 J (0.037)	ND (0.039)	0.16 J (0.041)	0.53 (0.041)	ND (0.04)	ND (0.04)	0.15 J (0.039)	ND (0.039)	ND (0.04)
Fluorene	130000	190000	3800	ND (0.037)	ND (0.039)	0.51 (0.041)	1.3 (0.041)	ND (0.04)	ND (0.04)	0.59 (0.039)	ND (0.039)	ND (0.04)
Indeno(1,2,3-cd)pyrene	76	190000	18000	0.044 J (0.037)	ND (0.039)	ND (0.041)	0.059 J (0.041)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.04)
Naphthalene	66	77	25	ND (0.055)	0.071 J (0.054)	ND (0.055)	ND (0.055)	ND (0.055)	ND (0.053)	0.059 J (0.053)	ND (0.057)	ND (0.059)
Phenanthrene	190000	190000	10000	0.048 J (0.037)	ND (0.039)	0.87 (0.041)	3.1 (0.041)	ND (0.04)	ND (0.04)	0.88 (0.039)	ND (0.039)	ND (0.04)
Pyrene	96000	190000	2200	0.1 J (0.037)	0.042 J (0.039)	0.15 J (0.041)	0.44 (0.041)	ND (0.04)	ND (0.04)	0.12 J (0.039)	ND (0.039)	ND (0.04)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-848 SUB 2	PB-848 SUB 3	PB848-18-1-1	PB848-18-1-2	PB848-18-1-4	PB848-18-2-11	PB848-18-2-2	PB848-18-2-5	PB-848-LINE-10
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	848 Sub 2	848 Sub 3	PB848-001G (1-1)	PB848-002G (1-2)	PB848-003G (1-4)	PB848-006G (2-11)	PB848-004G (2-2)	PB848-005G (2-5)	PB-848-LINE-10
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	5.0 - 5.5	5.0 - 5.5	0.5 - 1.0	0.5 - 1.0	0.5 - 1.0	0.5 - 1.0	0.5 - 1.0	0.5 - 1.0	5.5 - 6.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/24/2006	8/24/2006	5/7/2018	5/7/2018	5/7/2018	5/8/2018	5/8/2018	5/8/2018	5/30/2007
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.027)	<u>20 (0.28)</u>	0.018 (0.004)	0.03 (0.005)	0.042 (0.005)	0.003 J (0.005)	0.001 J (0.005)	0.0009 J (0.006)	ND,D (0.15)
Cumene	10000	10000	2500	ND (0.055)	8.9 (0.056)	ND (0.004)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.006)	2.5 D (0.15)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	ND,IQ (0.00056)	ND,IQ (0.00052)	ND,IQ (0.00053)	ND,IQ (0.00054)	ND,IQ (0.00054)	ND,IQ (0.00056)	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	ND (0.004)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.006)	NA
Ethyl Benzene	880	1000	70	ND (0.055)	46 (0.56)	ND (0.004)	0.0009 J (0.005)	0.001 J (0.005)	ND (0.005)	ND (0.005)	ND (0.006)	0.69 D (0.15)
Methyl tert-butyl ether	8500	9800	2	NA	NA	ND (0.004)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.006)	NA
Toluene	10000	10000	100	ND (0.055)	1.5 (0.056)	0.009 (0.004)	0.011 (0.005)	0.018 (0.005)	0.005 J (0.005)	ND (0.005)	ND (0.006)	ND,D (0.15)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	ND (0.004)	ND (0.005)	0.001 J (0.005)	ND (0.005)	ND (0.005)	ND (0.006)	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	ND (0.004)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.006)	NA
Xylenes (total)	7900	9100	1000	NA	NA	0.003 J (0.004)	0.005 (0.005)	0.007 (0.005)	0.002 J (0.005)	ND (0.005)	ND (0.006)	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.041)	0.21 (0.039)	NA	NA	NA	NA	NA	NA	ND (0.43)
Benzo(a)anthracene	130	190000	340	ND (0.041)	ND (0.039)	NA	NA	NA	NA	NA	NA	ND (0.43)
Benzo(a)pyrene	91	190000	46	ND (0.041)	ND (0.039)	NA	NA	NA	NA	NA	NA	ND (0.43)
Benzo(b)fluoranthene	76	190000	170	ND (0.041)	ND (0.039)	NA	NA	NA	NA	NA	NA	ND (0.43)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.041)	ND (0.039)	NA	NA	NA	NA	NA	NA	ND (0.43)
Chrysene	760	190000	230	ND (0.041)	ND (0.039)	NA	NA	NA	NA	NA	NA	ND (0.43)
Fluorene	130000	190000	3800	ND (0.041)	2.2 (0.039)	NA	NA	NA	NA	NA	NA	0.66 (0.43)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.041)	ND (0.039)	NA	NA	NA	NA	NA	NA	ND (0.43)
Naphthalene	66	77	25	ND (0.055)	4.9 (0.056)	NA	NA	NA	NA	NA	NA	0.28 D (0.15)
Phenanthrene	190000	190000	10000	ND (0.041)	1.9 (0.039)	NA	NA	NA	NA	NA	NA	1.5 (0.43)
Pyrene	96000	190000	2200	ND (0.041)	ND (0.039)	NA	NA	NA	NA	NA	NA	ND (0.43)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-848-LINE-11	PB-848-LINE-12	PB-848-LINE-13	PB-848-LINE-4	PB-848-LINE-5	PB-848-LINE-8	PB-848-LINE-9	PB-848-PER-4	PB-848-PER-5
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-848-LINE-11	PB-848-LINE-12	PB-848-LINE-13	PB-848-LINE-4	PB-848-LINE-5	PB-848-LINE-8	PB-848-LINE-9	PB-848-PER-4	PB-848-PER-5
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND,D (0.16)	ND,D (0.33)	0.13 J,D (0.21)	ND,D (0.19)	ND,D (0.3)	ND,D (0.27)	ND,D (0.18)	0.93 D (0.18)	ND,D (0.18)
Cumene	10000	10000	2500	ND,D (0.16)	0.41 D (0.33)	ND,D (0.21)	8.5 D (0.19)	0.94 D (0.3)	8.6 D (0.27)	0.9 D (0.18)	0.63 D (0.18)	ND,D (0.18)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	0.084 J,D (0.16)	0.24 J,D (0.33)	0.16 J,D (0.21)	ND,D (0.19)	ND,D (0.3)	1.7 D (0.27)	0.2 D (0.18)	0.27 D (0.18)	ND,D (0.18)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	0.1 J,D (0.16)	ND,D (0.33)	ND,D (0.21)	ND,D (0.19)	ND,D (0.3)	ND,D (0.27)	0.14 J,D (0.18)	ND,D (0.18)	ND,D (0.18)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.4)	ND (0.42)	ND (0.39)	ND (0.43)	ND (0.43)	ND (0.41)	ND (0.42)	ND,D (2.3)	ND (0.37)
Benzo(a)anthracene	130	190000	340	ND (0.4)	ND (0.42)	ND (0.39)	ND (0.43)	ND (0.43)	ND (0.41)	ND (0.42)	ND,D (2.3)	ND (0.37)
Benzo(a)pyrene	91	190000	46	ND (0.4)	ND (0.42)	ND (0.39)	ND (0.43)	ND (0.43)	ND (0.41)	ND (0.42)	ND,D (2.3)	ND (0.37)
Benzo(b)fluoranthene	76	190000	170	ND (0.4)	ND (0.42)	ND (0.39)	ND (0.43)	ND (0.43)	ND (0.41)	ND (0.42)	ND,D (2.3)	ND (0.37)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.4)	ND (0.42)	ND (0.39)	ND (0.43)	ND (0.43)	ND (0.41)	ND (0.42)	ND,D (2.3)	ND (0.37)
Chrysene	760	190000	230	ND (0.4)	ND (0.42)	ND (0.39)	ND (0.43)	ND (0.43)	ND (0.41)	ND (0.42)	ND,D (2.3)	ND (0.37)
Fluorene	130000	190000	3800	0.38 J (0.4)	ND (0.42)	ND (0.39)	0.75 (0.43)	ND (0.43)	0.83 (0.41)	0.48 (0.42)	10 D (2.3)	ND (0.37)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.4)	ND (0.42)	ND (0.39)	ND (0.43)	ND (0.43)	ND (0.41)	ND (0.42)	ND,D (2.3)	ND (0.37)
Naphthalene	66	77	25	0.3 D (0.16)	1.9 D (0.33)	ND,D (0.21)	ND,D (0.19)	ND,D (0.3)	0.33 D (0.27)	0.9 D (0.18)	ND,D (0.18)	ND,D (0.18)
Phenanthrene	190000	190000	10000	ND (0.4)	ND (0.42)	ND (0.39)	1.7 (0.43)	ND (0.43)	1.5 (0.41)	0.79 (0.42)	13 D (2.3)	ND (0.37)
Pyrene	96000	190000	2200	ND (0.4)	ND (0.42)	ND (0.39)	ND (0.43)	ND (0.43)	ND (0.41)	ND (0.42)	ND,D (2.3)	ND (0.37)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-849-LINE-1	PB-849-LINE-2	PB-849-LINE-3	PB-849-LINE-4	PB-849-PER1	PB-849-PER2	PB-849-PER3	PB-849-PER4	PB-849-PER5
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-849-LINE-1	PB-849-LINE-2	PB-849-LINE-3	PB-849-LINE-4	PB-849-PER1	PB-849-PER2	PB-849-PER3	PB-849-PER4	PB-849-PER5
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	9/4/2007	9/4/2007	9/4/2007	9/4/2007	5/25/2007	5/25/2007	5/25/2007	5/25/2007	5/25/2007
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.0056)	ND (0.0061)	0.0046 J (0.0061)	ND (0.0058)	ND,D (0.18)	ND,D (0.16)	ND,D (0.29)	ND,D (0.16)	ND,D (0.15)
Cumene	10000	10000	2500	ND (0.0056)	ND (0.0061)	ND (0.0061)	ND (0.0058)	ND,D (0.18)	ND,D (0.16)	ND,D (0.29)	ND,D (0.16)	ND,D (0.15)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.0056)	ND (0.0061)	ND (0.0061)	ND (0.0058)	ND,D (0.18)	ND,D (0.16)	ND,D (0.29)	ND,D (0.16)	ND,D (0.15)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.0056)	ND (0.0061)	0.0047 J (0.0061)	ND (0.0058)	ND,D (0.18)	ND,D (0.16)	ND,D (0.29)	ND,D (0.16)	ND,D (0.15)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Benzo(a)anthracene	130	190000	340	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Benzo(a)pyrene	91	190000	46	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Benzo(b)fluoranthene	76	190000	170	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Benzo(g,h,i)perylene	190000	190000	180	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Chrysene	760	190000	230	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Fluorene	130000	190000	3800	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Naphthalene	66	77	25	0.0039 J (0.0056)	0.002 J (0.0061)	0.0036 J (0.0061)	0.002 J (0.0058)	ND,D (0.18)	ND,D (0.16)	ND,D (0.29)	ND,D (0.16)	ND,D (0.15)
Phenanthrene	190000	190000	10000	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Pyrene	96000	190000	2200	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-849-SUB1	PB-880-1	PB-880-10	PB-880-11	PB-880-12	PB-880-13	PB-880-14	PB-880-2	PB-880-3
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-849-SUB1	880-1	880-10	880-11	880-12	880-13	880-14	880-2	880-3
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	5.0 - 5.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	5/25/2007	4/8/2004	4/24/2004	4/24/2004	4/24/2004	4/24/2004	9/7/2004	4/8/2004	4/8/2004
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND,D (0.31)	0.42 (0.01)	0.33 (0.028)	1.1 (0.029)	0.034 J (0.028)	8 (0.029)	0.014 (0.0021)	ND (0.012)	ND (0.013)
Cumene	10000	10000	2500	ND,D (0.31)	0.35 (0.02)	0.3 (0.056)	2.7 (0.057)	0.069 J (0.056)	1.6 (0.057)	0.031 (0.0054)	ND (0.023)	ND (0.027)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND,D (0.31)	1 (0.02)	0.72 (0.056)	6.3 (0.057)	0.15 J (0.056)	3.3 (0.057)	ND (0.024)	ND (0.023)	ND (0.027)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND,D (0.31)	2.7 (0.02)	1.7 (0.056)	12 (0.057)	0.26 J (0.056)	24 (0.23)	0.037 (0.0021)	ND (0.023)	ND (0.027)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.42)	ND (0.19)	ND (1)	ND (2)	ND (2)	ND (2)	0.021 J (0.0036)	ND (0.039)	ND (0.41)
Benzo(a)anthracene	130	190000	340	ND (0.42)	ND (0.19)	ND (1)	ND (2)	ND (2)	ND (2)	0.063 (0.0081)	ND (0.039)	ND (0.41)
Benzo(a)pyrene	91	190000	46	ND (0.42)	ND (0.19)	ND (1)	ND (2)	ND (2)	ND (2)	0.099 (0.012)	ND (0.039)	ND (0.41)
Benzo(b)fluoranthene	76	190000	170	ND (0.42)	ND (0.19)	ND (1)	ND (2)	ND (2)	ND (2)	0.085 (0.016)	ND (0.039)	ND (0.41)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.42)	ND (0.19)	ND (1)	ND (2)	ND (2)	ND (2)	0.1 (0.016)	ND (0.039)	ND (0.41)
Chrysene	760	190000	230	ND (0.42)	ND (0.19)	ND (1)	ND (2)	ND (2)	ND (2)	0.085 (0.012)	ND (0.039)	ND (0.41)
Fluorene	130000	190000	3800	ND (0.42)	0.46 J (0.19)	1.4 J (1)	2.8 J (2)	ND (2)	ND (2)	0.026 J (0.024)	ND (0.039)	ND (0.41)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.42)	ND (0.19)	ND (1)	ND (2)	ND (2)	ND (2)	ND (0.02)	ND (0.039)	ND (0.41)
Naphthalene	66	77	25	ND,D (0.31)	2 (0.02)	1.3 (0.056)	13 (0.057)	0.41 (0.056)	10 (0.057)	0.22 (0.011)	ND (0.023)	ND (0.027)
Phenanthrene	190000	190000	10000	ND (0.42)	0.86 J (0.19)	3.3 J (1)	5.9 J (2)	ND (2)	2 J (2)	0.16 (0.012)	ND (0.039)	ND (0.41)
Pyrene	96000	190000	2200	ND (0.42)	0.2 J (0.19)	ND (1)	ND (2)	ND (2)	ND (2)	0.19 (0.028)	ND (0.039)	ND (0.41)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-880-4	PB-880-5	PB-880-6	PB-880-7	PB-880-8	PB-880-9	PB-880-SURFACE	PB-881-1_2004	PB-881-1_2005
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	880-4	880-5	880-6	880-7	880-8	880-9	880-Surface	881-1_07/22/2004	881-1_10/26/2005
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	4/8/2004	4/8/2004	4/8/2004	4/8/2004	4/8/2004	4/24/2004	4/8/2004	7/22/2004	10/26/2005
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	0.14 (0.013)	0.22 (0.013)	ND (0.012)	0.018 J (0.012)	0.58 (0.015)	3.1 (0.026)	36 (0.26)	ND (0.0012)	ND (0.023)
Cumene	10000	10000	2500	0.27 (0.025)	0.49 (0.027)	ND (0.025)	ND (0.024)	0.39 (0.03)	4.6 (0.051)	13 (0.52)	ND (0.0031)	ND (0.045)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	0.66 (0.025)	1.3 (0.027)	ND (0.025)	ND (0.024)	1.2 (0.03)	13 (0.051)	41 (0.52)	ND (0.0012)	ND (0.045)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	1.3 (0.025)	2.4 (0.027)	0.034 J (0.025)	0.03 J (0.024)	3.2 (0.03)	29 (0.26)	140 (0.52)	0.0024 J (0.0012)	ND (0.045)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.2)	0.22 J (0.04)	ND (0.04)	ND (0.39)	0.74 J (0.44)	ND (2)	3.6 J (0.36)	0.019 (0.000011)	ND (0.037)
Benzo(a)anthracene	130	190000	340	ND (0.2)	0.16 J (0.04)	ND (0.04)	ND (0.39)	0.52 J (0.44)	ND (2)	ND (0.36)	0.077 (0.0016)	0.2 (0.037)
Benzo(a)pyrene	91	190000	46	ND (0.2)	0.17 J (0.04)	ND (0.04)	ND (0.39)	0.59 J (0.44)	ND (2)	ND (0.36)	0.091 (0.0024)	ND (0.037)
Benzo(b)fluoranthene	76	190000	170	ND (0.2)	0.2 J (0.04)	ND (0.04)	ND (0.39)	0.68 J (0.44)	ND (2)	0.88 J (0.36)	0.067 (0.0031)	ND (0.037)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.2)	0.1 J (0.04)	ND (0.04)	ND (0.39)	ND (0.44)	ND (2)	ND (0.36)	0.12 (0.0031)	ND (0.037)
Chrysene	760	190000	230	ND (0.2)	0.2 J (0.04)	ND (0.04)	ND (0.39)	1 J (0.44)	ND (2)	2.1 J (0.36)	0.075 (0.0024)	0.15 J (0.037)
Fluorene	130000	190000	3800	0.34 J (0.2)	0.57 (0.04)	ND (0.04)	ND (0.39)	1.9 J (0.44)	ND (2)	12 (0.36)	0.0057 J (0.0047)	0.069 J (0.037)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.2)	0.1 J (0.04)	ND (0.04)	ND (0.39)	ND (0.44)	ND (2)	ND (0.36)	0.043 (0.0039)	ND (0.037)
Naphthalene	66	77	25	1.1 (0.025)	2.1 (0.027)	ND (0.025)	0.038 J (0.024)	1.4 (0.03)	22 (0.26)	52 (0.52)	ND (0.0061)	ND (0.045)
Phenanthrene	190000	190000	10000	0.59 J (0.2)	1.2 (0.04)	ND (0.04)	ND (0.39)	4.1 J (0.44)	4.1 J (2)	28 (0.36)	0.096 (0.000035)	0.13 J (0.037)
Pyrene	96000	190000	2200	ND (0.2)	0.36 J (0.04)	ND (0.04)	ND (0.39)	1.3 J (0.44)	ND (2)	3.1 J (0.36)	0.21 (0.0055)	0.11 J (0.037)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
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D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-881-2_2004	PB-881-2_2005	PB-881-3_2004	PB-881-3_2005	PB-881-4_2004	PB-881-4_2005	PB-881-5_2004	PB-881-5_2005	PB-881-6_2004
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	881-2_07/22/2004	881-2_10/26/2005	881-3_07/22/2004	881-3_10/26/2005	881-4_07/22/2004	881-4_10/26/2005	881-5_07/22/2004	881-5_10/26/2005	881-6_07/22/2004
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/22/2004	10/26/2005	7/22/2004	10/26/2005	7/22/2004	10/26/2005	7/22/2004	10/26/2005	7/22/2004
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	0.011 (0.001)	ND (0.028)	ND (0.02)	ND (0.025)	ND (0.0011)	ND (0.027)	ND (0.18)	ND (0.027)	ND (0.32)
Cumene	10000	10000	2500	0.084 (0.0026)	ND (0.056)	0.85 (0.049)	ND (0.051)	ND (0.0028)	ND (0.053)	5.8 (0.45)	ND (0.054)	ND (0.81)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	0.023 (0.001)	ND (0.056)	0.3 (0.02)	ND (0.051)	ND (0.0011)	ND (0.053)	ND (0.18)	ND (0.054)	ND (0.32)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	0.032 (0.001)	ND (0.056)	0.25 (0.02)	ND (0.051)	0.0027 J (0.0011)	ND (0.053)	1.7 (0.18)	ND (0.054)	ND (0.32)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	0.057 (0.0036)	ND (0.039)	0.17 J (0.033)	ND (0.039)	ND (0.035)	ND (0.041)	0.89 (0.065)	ND (0.041)	0.36 J (0.064)
Benzo(a)anthracene	130	190000	340	0.018 J (0.0079)	0.046 J (0.039)	ND (0.073)	ND (0.039)	0.078 J (0.077)	0.058 J (0.041)	ND (0.14)	ND (0.041)	ND (0.14)
Benzo(a)pyrene	91	190000	46	0.021 J (0.012)	0.06 J (0.039)	ND (0.11)	ND (0.039)	ND (0.12)	0.049 J (0.041)	ND (0.22)	0.05 J (0.041)	ND (0.21)
Benzo(b)fluoranthene	76	190000	170	0.019 J (0.016)	0.042 J (0.039)	ND (0.15)	ND (0.039)	ND (0.15)	0.047 J (0.041)	ND (0.29)	0.061 J (0.041)	ND (0.29)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.016)	0.065 J (0.039)	ND (0.15)	0.057 J (0.039)	ND (0.15)	ND (0.041)	ND (0.29)	0.053 J (0.041)	ND (0.29)
Chrysene	760	190000	230	0.065 J (0.012)	0.14 J (0.039)	ND (0.74)	ND (0.039)	ND (0.12)	0.087 J (0.041)	ND (0.22)	0.051 J (0.041)	ND (0.21)
Fluorene	130000	190000	3800	0.069 J (0.024)	ND (0.039)	0.24 J (0.22)	ND (0.039)	ND (0.23)	ND (0.041)	1.8 J (0.43)	ND (0.041)	ND (0.43)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.02)	ND (0.039)	ND (0.18)	0.052 J (0.039)	ND (0.19)	ND (0.041)	ND (0.36)	ND (0.041)	ND (0.36)
Naphthalene	66	77	25	ND (1.2)	ND (0.056)	3.4 (0.098)	ND (0.051)	0.013 (0.0055)	ND (0.053)	31 (0.91)	ND (0.054)	20 (1.6)
Phenanthrene	190000	190000	10000	0.25 (0.012)	0.058 J (0.039)	0.61 J (0.11)	ND (0.039)	ND (0.12)	0.059 J (0.041)	4.2 (0.22)	ND (0.041)	0.66 J (0.21)
Pyrene	96000	190000	2200	0.12 J (0.028)	0.1 J (0.039)	0.39 J (0.26)	0.054 J (0.039)	ND (0.27)	0.098 J (0.041)	1.6 J (0.5)	0.081 J (0.041)	0.92 J (0.5)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-881-6_2005	PB-881-7_2004	PB-884-SS-1	PB-884-SS-2	PB-885-CS-1	PB-885-CS-10	PB-885-CS-11	PB-885-CS-12	PB-885-CS-13
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	881-6_10/26/2005	881-7_07/22/2004	AST-884-SS-1	AST-884-SS-2	AST-885-CS-1	AST-885-CS-10	AST-885-CS-11	AST-885-CS-12	AST-885-CS-13
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	10/26/2005	7/22/2004	11/30/2006	11/30/2006	3/14/2007	3/14/2007	3/14/2007	3/14/2007	3/14/2007
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.024)	ND (0.2)	ND (0.031)	0.055 J (0.029)	ND,D (0.096)	ND,D (0.09)	ND,D (0.095)	ND,D (0.094)	ND,D (0.094)
Cumene	10000	10000	2500	ND (0.047)	2.9 (0.5)	0.49 (0.063)	ND (0.059)	0.054 J,D (0.096)	0.099 D (0.09)	0.089 J,D (0.095)	ND,D (0.094)	ND,D (0.094)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.047)	ND (0.5)	0.74 (0.063)	ND (0.059)	0.11 D (0.096)	ND,D (0.09)	ND,D (0.095)	ND,D (0.094)	ND,D (0.094)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.047)	0.33 J (0.2)	0.12 J (0.063)	ND (0.059)	ND,D (0.096)	ND,D (0.09)	ND,D (0.095)	ND,D (0.094)	0.05 J,D (0.094)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	6.4 (0.063)	ND (0.059)	2.1 D (0.096)	0.15 D (0.09)	ND,D (0.095)	ND,D (0.094)	1.9 D (0.094)
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.039)	0.24 J (0.031)	0.045 J (0.043)	ND (0.04)	ND (0.39)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)
Benzo(a)anthracene	130	190000	340	0.044 J (0.039)	ND (0.069)	0.073 J (0.043)	0.14 J (0.04)	ND (0.39)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)
Benzo(a)pyrene	91	190000	46	0.058 J (0.039)	ND (0.1)	0.081 J (0.043)	0.14 J (0.04)	ND (0.39)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)
Benzo(b)fluoranthene	76	190000	170	0.057 J (0.039)	ND (0.14)	0.088 J (0.043)	0.15 J (0.04)	ND (0.39)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)
Benzo(g,h,i)perylene	190000	190000	180	0.078 J (0.039)	ND (0.14)	0.058 J (0.043)	0.096 J (0.04)	ND (0.39)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)
Chrysene	760	190000	230	0.064 J (0.039)	ND (0.1)	0.1 J (0.043)	0.15 J (0.04)	ND (0.39)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)
Fluorene	130000	190000	3800	ND (0.039)	0.49 J (0.21)	0.39 (0.043)	ND (0.04)	ND (0.39)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)
Indeno(1,2,3-cd)pyrene	76	190000	18000	0.042 J (0.039)	ND (0.17)	0.047 J (0.043)	0.1 J (0.04)	ND (0.39)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)
Naphthalene	66	77	25	ND (0.047)	18 (1)	2.7 (0.063)	ND (0.059)	0.52 D (0.096)	0.1 D (0.09)	ND,D (0.095)	0.16 D (0.094)	0.48 D (0.094)
Phenanthrene	190000	190000	10000	ND (0.039)	1.1 (0.1)	0.66 (0.043)	0.17 J (0.04)	0.6 (0.39)	ND (0.4)	ND (0.41)	0.5 (0.38)	1.2 (0.38)
Pyrene	96000	190000	2200	0.082 J (0.039)	0.54 J (0.24)	0.11 J (0.043)	0.24 (0.04)	ND (0.39)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
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Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-885-CS-14	PB-885-CS-15	PB-885-CS-2	PB-885-CS-3	PB-885-CS-4	PB-885-CS-5	PB-885-CS-6	PB-885-CS-7	PB-885-CS-8
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AST-885-CS-14	AST-885-CS-15	AST-885-CS-2	AST-885-CS-3	AST-885-CS-4	AST-885-CS-5	AST-885-CS-6	AST-885-CS-7	AST-885-CS-8
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	3/14/2007	3/14/2007	3/14/2007	3/14/2007	3/14/2007	3/14/2007	3/14/2007	3/14/2007	3/14/2007
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND,D (0.089)	ND,D (0.096)	0.55 D (0.083)	0.065 J,D (0.09)	0.19 D (0.081)	0.11 D (0.095)	ND,D (0.092)	ND,D (0.1)	ND,D (0.11)
Cumene	10000	10000	2500	ND,D (0.089)	ND,D (0.096)	0.44 D (0.083)	0.48 D (0.09)	1.1 D (0.081)	1.1 D (0.095)	ND,D (0.092)	0.35 D (0.1)	0.25 D (0.11)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND,D (0.089)	ND,D (0.096)	1.6 D (0.083)	0.44 D (0.09)	1.7 D (0.081)	1.8 D (0.095)	ND,D (0.092)	0.51 D (0.1)	0.34 D (0.11)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND,D (0.089)	ND,D (0.096)	1.1 D (0.083)	0.61 D (0.09)	3.4 D (0.081)	3.3 D (0.095)	ND,D (0.092)	0.23 D (0.1)	0.1 J,D (0.11)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	ND,D (0.089)	ND,D (0.096)	7.9 D (0.083)	18 D (0.09)	21 D (0.081)	22 D (0.095)	0.81 D (0.092)	7.3 D (0.1)	3.1 D (0.11)
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.43)	0.45 (0.4)	ND (0.41)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.42)	ND (0.41)	ND (0.45)
Benzo(a)anthracene	130	190000	340	ND (0.43)	0.76 (0.4)	ND (0.41)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.42)	ND (0.41)	ND (0.45)
Benzo(a)pyrene	91	190000	46	ND (0.43)	0.46 (0.4)	ND (0.41)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.42)	ND (0.41)	ND (0.45)
Benzo(b)fluoranthene	76	190000	170	ND (0.43)	0.68 (0.4)	ND (0.41)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.42)	ND (0.41)	ND (0.45)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.43)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.42)	ND (0.41)	ND (0.45)
Chrysene	760	190000	230	ND (0.43)	0.56 (0.4)	ND (0.41)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.42)	ND (0.41)	ND (0.45)
Fluorene	130000	190000	3800	ND (0.43)	ND (0.4)	0.49 (0.41)	3.3 (0.38)	ND (0.38)	ND (0.38)	ND (0.42)	ND (0.41)	ND (0.45)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.43)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.42)	ND (0.41)	ND (0.45)
Naphthalene	66	77	25	ND,D (0.089)	ND,D (0.096)	1.4 D (0.083)	4.1 D (0.09)	4.6 D (0.081)	4.3 D (0.095)	0.19 D (0.092)	1.2 D (0.1)	0.74 D (0.11)
Phenanthrene	190000	190000	10000	ND (0.43)	1.6 (0.4)	0.61 (0.41)	3.9 (0.38)	ND (0.38)	2.5 (0.38)	0.72 (0.42)	ND (0.41)	1.9 (0.45)
Pyrene	96000	190000	2200	ND (0.43)	1.1 (0.4)	ND (0.41)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.42)	ND (0.41)	ND (0.45)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-885-CS-9	PB-885-SS-1	PB-885-SS-10	PB-885-SS-2	PB-885-SS-3	PB-885-SS-4	PB-885-SS-5	PB-885-SS-6	PB-885-SS-7
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AST-885-CS-9	AST-885-SS-1	AST-885-SS-10	AST-885-SS-2	AST-885-SS-3	AST-885-SS-4	AST-885-SS-5	AST-885-SS-6	AST-885-SS-7
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	3/14/2007	11/30/2006	11/30/2006	11/30/2006	11/30/2006	11/30/2006	11/30/2006	11/30/2006	11/30/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND,D (0.11)	ND (0.028)	0.11 J (0.034)	0.1 J (0.031)	ND (0.033)	0.068 J (0.026)	0.35 (0.031)	2.6 (0.031)	0.16 J (0.031)
Cumene	10000	10000	2500	0.11 J,D (0.11)	ND (0.057)	1.2 (0.068)	1.2 (0.063)	ND (0.065)	ND (0.052)	1.7 (0.061)	5.4 (0.061)	2.9 (0.061)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND,D (0.11)	ND (0.057)	2.2 (0.068)	2.1 (0.063)	ND (0.065)	ND (0.052)	3.4 (0.061)	13 (0.061)	2.4 (0.061)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND,D (0.11)	ND (0.057)	0.85 (0.068)	1.6 (0.063)	ND (0.065)	0.1 J (0.052)	3.3 (0.061)	26 (0.61)	3.4 (0.061)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	1 D (0.11)	ND (0.057)	17 (0.068)	21 (0.063)	ND (0.065)	4.4 (0.052)	27 (0.061)	97 (0.61)	66 (0.61)
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.45)	ND (0.18)	ND (0.21)	ND (0.2)	ND (0.038)	ND (0.18)	ND (0.2)	ND (0.2)	ND (0.2)
Benzo(a)anthracene	130	190000	340	ND (0.45)	ND (0.18)	ND (0.21)	ND (0.2)	0.076 J (0.038)	ND (0.18)	ND (0.2)	ND (0.2)	0.22 J (0.2)
Benzo(a)pyrene	91	190000	46	ND (0.45)	ND (0.18)	ND (0.21)	ND (0.2)	0.069 J (0.038)	ND (0.18)	ND (0.2)	ND (0.2)	ND (0.2)
Benzo(b)fluoranthene	76	190000	170	ND (0.45)	ND (0.18)	ND (0.21)	ND (0.2)	0.075 J (0.038)	ND (0.18)	ND (0.2)	ND (0.2)	ND (0.2)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.45)	ND (0.18)	ND (0.21)	ND (0.2)	0.046 J (0.038)	ND (0.18)	ND (0.2)	ND (0.2)	ND (0.2)
Chrysene	760	190000	230	ND (0.45)	ND (0.18)	ND (0.21)	ND (0.2)	0.077 J (0.038)	ND (0.18)	ND (0.2)	ND (0.2)	0.22 J (0.2)
Fluorene	130000	190000	3800	ND (0.45)	ND (0.18)	1.2 (0.21)	ND (0.2)	ND (0.038)	ND (0.18)	ND (0.2)	1.2 (0.2)	1.2 (0.2)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.45)	ND (0.18)	ND (0.21)	ND (0.2)	0.046 J (0.038)	ND (0.18)	ND (0.2)	ND (0.2)	ND (0.2)
Naphthalene	66	77	25	0.21 D (0.11)	ND (0.057)	6.5 (0.068)	4.8 (0.063)	ND (0.065)	0.11 J (0.052)	5.6 (0.061)	15 (0.061)	11 (0.061)
Phenanthrene	190000	190000	10000	1.2 (0.45)	ND (0.18)	2 (0.21)	0.88 J (0.2)	0.12 J (0.038)	0.5 J (0.18)	1.5 (0.2)	2 (0.2)	2.3 (0.2)
Pyrene	96000	190000	2200	ND (0.45)	0.18 J (0.18)	ND (0.21)	ND (0.2)	0.092 J (0.038)	ND (0.18)	ND (0.2)	ND (0.2)	ND (0.2)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-885-SS-8	PB-885-SS-9	S-119D	S-216	S-218D	S-218D	S-219	S-229	S-282
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AST-885-SS-8	AST-885-SS-9	BHS119D-040105-1-1.5	BH-S216-032505-1-1.5	AOI4-S218D-0.5-1.0-20160205	AOI4-S218D-6-6.5-20160114	BH-S219-032505-1-1.5	BH-S229-032505-1.5-2	S-282_1-2
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	1.0 - 1.5	1.0 - 1.5	0.5 - 1.0	6.0 - 6.5	1.0 - 1.5	1.5 - 2.0	1.0 - 2.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	11/30/2006	11/30/2006	4/1/2005	3/25/2005	2/5/2016	1/14/2016	3/25/2005	3/25/2005	4/27/2010
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.035)	ND (0.029)	ND (0.005)	ND (0.005)	ND (0.00055)	0.0114 (0.00053)	ND (0.005)	ND (0.005)	ND (0.004)
Cumene	10000	10000	2500	ND (0.069)	0.11 J (0.059)	ND (0.005)	ND (0.005)	ND (0.0022)	0.088 (0.0021)	ND (0.005)	ND (0.005)	ND (0.004)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	ND (0.005)	ND (0.005)	NA	ND (0.0011)	ND (0.005)	ND (0.005)	ND (0.004)
1,2-Dichloroethane	85	98	0.5	NA	NA	ND (0.005)	ND (0.005)	ND (0.0011)	ND (0.0011)	ND (0.005)	ND (0.005)	ND (0.004)
Ethyl Benzene	880	1000	70	ND (0.069)	ND (0.059)	ND (0.005)	ND (0.005)	ND (0.0011)	0.207 (0.12)	ND (0.005)	ND (0.005)	ND (0.004)
Methyl tert-butyl ether	8500	9800	2	NA	NA	ND (0.005)	ND (0.005)	ND (0.0011)	ND (0.0011)	ND (0.005)	0.014 (0.005)	ND (0.004)
Toluene	10000	10000	100	ND (0.069)	ND (0.059)	ND (0.005)	ND (0.005)	ND (0.0011)	0.0234 (0.0011)	ND (0.005)	ND (0.005)	ND (0.004)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	ND (0.0022)	1.17 (0.24)	NA	NA	ND (0.004)
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	ND (0.0022)	0.434 (0.24)	NA	NA	ND (0.004)
Xylenes (total)	7900	9100	1000	ND (0.069)	1.8 (0.059)	ND (0.005)	ND (0.005)	ND (0.0011)	0.418 (0.12)	ND (0.005)	ND (0.005)	ND (0.004)
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.2)	0.2 J (0.2)	ND (0.38)	ND (0.38)	0.0207 J (0.039)	ND (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Benzo(a)anthracene	130	190000	340	ND (0.2)	0.49 J (0.2)	ND (0.38)	ND (0.38)	0.0748 (0.039)	ND (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Benzo(a)pyrene	91	190000	46	0.22 J (0.2)	0.36 J (0.2)	ND (0.38)	ND (0.38)	0.0952 (0.039)	ND (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Benzo(b)fluoranthene	76	190000	170	0.24 J (0.2)	0.46 J (0.2)	ND (0.38)	ND (0.38)	0.106 (0.039)	ND (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.2)	0.26 J (0.2)	ND (0.38)	ND (0.38)	0.0794 (0.039)	ND (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Chrysene	760	190000	230	ND (0.2)	0.55 J (0.2)	ND (0.38)	ND (0.38)	0.0966 (0.039)	ND (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Fluorene	130000	190000	3800	ND (0.2)	0.47 J (0.2)	ND (0.38)	ND (0.38)	ND (0.039)	0.231 (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.2)	0.3 J (0.2)	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.069)	0.55 (0.059)	ND (0.38)	ND (0.38)	0.0317 J (0.039)	2.44 (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Phenanthrene	190000	190000	10000	ND (0.2)	1.4 (0.2)	ND (0.38)	ND (0.38)	0.11 (0.039)	0.371 (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Pyrene	96000	190000	2200	0.24 J (0.2)	0.82 J (0.2)	ND (0.38)	ND (0.38)	0.127 (0.039)	0.022 J (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Metals												
Lead	1000	190000	450	NA	NA	24.9 (2.24)	60.8 (2.26)	500 (2.4)	13.3 (2.2)	8.99 (2.37)	16.7 (2.16)	87.3 (0.229)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
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4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

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NA - Not Analyzed
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J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	S-364	S-364	S-364	S-365	S-365	S-365	S-366	S-366	S-366
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4_S-364_.5-1_30413	AOI4_S-364_4-5_30413	S-364 @ 19'_031913	S-365_0-2'	S-365_4-6'	S-365 @ 12'-14'_031813	AOI4_S-366_0-1_30513	AOI4_S-366_4.5-5.5_30513	S-366@14-16_031513
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.5 - 1.0	4.0 - 5.0	18.5 - 19.0	0.0 - 2.0	4.0 - 6.0	12.0 - 14.0	0.0 - 1.0	4.5 - 5.5	14.0 - 16.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	3/4/2013	3/4/2013	3/19/2013	3/4/2013	3/4/2013	3/18/2013	3/5/2013	3/5/2013	3/15/2013
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.00074)	0.189 J (0.21)	0.241 (0.1)	ND (0.00055)	0.0269 (0.00057)	0.0004 J (0.0011)	ND (0.0009)	ND (0.0011)	0.00041 J (0.0011)
Cumene	10000	10000	2500	ND (0.0037)	0.755 J (1)	2.36 (0.5)	ND (0.0028)	0.0063 (0.0028)	ND (0.0053)	ND (0.0045)	ND (0.0053)	ND (0.0056)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00074)	ND (0.21)	ND (0.1)	ND (0.00055)	ND (0.00057)	ND (0.0011)	ND (0.0009)	ND (0.0011)	ND (0.0011)
1,2-Dichloroethane	85	98	0.5	ND (0.00074)	ND (0.21)	ND (0.1)	ND (0.00055)	ND (0.00057)	ND (0.0011)	ND (0.0009)	ND (0.0011)	ND (0.0011)
Ethyl Benzene	880	1000	70	ND (0.00074)	1.43 (0.21)	0.14 (0.1)	ND (0.00055)	0.0085 (0.00057)	ND (0.0011)	ND (0.0009)	ND (0.0011)	ND (0.0011)
Methyl tert-butyl ether	8500	9800	2	ND (0.00074)	ND (0.21)	ND (0.1)	ND (0.00055)	0.00024 J (0.00057)	ND (0.0011)	ND (0.0009)	ND (0.0011)	ND (0.0011)
Toluene	10000	10000	100	ND (0.00074)	ND (0.21)	ND (0.1)	ND (0.00055)	0.0025 (0.00057)	ND (0.0011)	ND (0.0009)	ND (0.0011)	ND (0.0011)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0037)	4.3 (1)	ND (0.5)	ND (0.0028)	0.0025 J (0.0028)	ND (0.0053)	ND (0.0045)	ND (0.0053)	ND (0.0056)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0037)	1.88 (1)	ND (0.5)	ND (0.0028)	0.0027 J (0.0028)	ND (0.0053)	ND (0.0045)	ND (0.0053)	ND (0.0056)
Xylenes (total)	7900	9100	1000	ND (0.00074)	2.25 (0.21)	0.222 (0.1)	ND (0.00055)	0.0098 (0.00057)	ND (0.0011)	ND (0.0009)	ND (0.0011)	ND (0.0011)
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.035)	ND (0.041)	ND (0.039)	ND (0.033)	0.356 (0.039)	ND (0.034)	ND (0.035)	ND (0.04)	ND (0.1)
Benzo(a)anthracene	130	190000	340	ND (0.035)	ND (0.041)	ND (0.039)	0.02 J (0.033)	0.841 (0.039)	ND (0.034)	0.0154 J (0.035)	ND (0.04)	ND (0.1)
Benzo(a)pyrene	91	190000	46	ND (0.035)	ND (0.041)	ND (0.039)	0.0242 J (0.033)	0.825 (0.039)	ND (0.034)	0.0169 J (0.035)	ND (0.04)	ND (0.1)
Benzo(b)fluoranthene	76	190000	170	ND (0.035)	ND (0.041)	ND (0.039)	0.035 (0.033)	0.802 (0.039)	ND (0.034)	0.0177 J (0.035)	ND (0.04)	ND (0.1)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.035)	ND (0.041)	ND (0.039)	0.0292 J (0.033)	0.545 (0.039)	ND (0.034)	0.0212 J (0.035)	ND (0.04)	ND (0.1)
Chrysene	760	190000	230	ND (0.035)	ND (0.041)	ND (0.039)	0.0279 J (0.033)	0.983 (0.039)	ND (0.034)	0.0139 J (0.035)	ND (0.04)	ND (0.1)
Fluorene	130000	190000	3800	ND (0.035)	ND (0.041)	0.0934 (0.039)	ND (0.033)	0.386 (0.039)	ND (0.034)	ND (0.035)	ND (0.04)	ND (0.1)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.035)	ND (0.041)	ND (0.039)	ND (0.033)	0.314 (0.039)	ND (0.034)	ND (0.035)	ND (0.04)	ND (0.1)
Phenanthrene	190000	190000	10000	ND (0.035)	0.0402 J (0.041)	0.172 (0.039)	ND (0.033)	2.18 (0.039)	ND (0.034)	ND (0.035)	ND (0.04)	ND (0.1)
Pyrene	96000	190000	2200	0.0237 J (0.035)	0.0243 J (0.041)	0.0583 (0.039)	0.0295 J (0.033)	1.97 (0.039)	ND (0.034)	ND (0.035)	ND (0.04)	ND (0.1)
Metals												
Lead	1000	190000	450	13 (2.3)	15.2 (2.3)	18.5 (2)	79.1 (2.2)	222 (2.3)	4.2 (2.2)	14.2 (11)	10.9 (2.7)	4.3 (0.99)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	S-367	S-367	S-367	S-368	S-368	S-368	S-369	S-369	S-369
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	S-367_0-2'	S-367@14'_031313	S-367_031313@6'	AOI4_S-368_0-1_30513	AOI4_S-368_6-7_30513	S-368@14'_031413	S-369_0-2'	S-369_6-8'	S-369_8-10'
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 2.0	13.5 - 14.0	5.5 - 6.0	0.0 - 1.0	6.0 - 7.0	13.5 - 14.0	0.0 - 2.0	6.0 - 8.0	8.0 - 10.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	3/5/2013	3/13/2013	3/13/2013	3/5/2013	3/5/2013	3/14/2013	3/4/2013	3/4/2013	3/4/2013
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.00055)	0.00054 J (0.0012)	ND (0.095)	ND (0.001)	ND (0.11)	ND (0.0011)	ND (0.00062)	ND (0.0005)	ND (0.00065)
Cumene	10000	10000	2500	0.0135 (0.0028)	0.017 (0.0058)	0.431 J (0.47)	ND (0.0052)	ND (0.53)	0.0026 J (0.0054)	ND (0.0031)	ND (0.0025)	ND (0.0033)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00055)	ND (0.0012)	ND (0.095)	ND (0.001)	ND (0.11)	ND (0.0011)	ND (0.00062)	ND (0.0005)	ND (0.00065)
1,2-Dichloroethane	85	98	0.5	ND (0.00055)	ND (0.0012)	ND (0.095)	ND (0.001)	ND (0.11)	ND (0.0011)	ND (0.00062)	ND (0.0005)	ND (0.00065)
Ethyl Benzene	880	1000	70	0.00081 (0.00055)	ND (0.0012)	ND (0.095)	ND (0.001)	ND (0.11)	0.0059 (0.0011)	ND (0.00062)	ND (0.0005)	ND (0.00065)
Methyl tert-butyl ether	8500	9800	2	ND (0.00055)	ND (0.0012)	ND (0.095)	ND (0.001)	ND (0.11)	ND (0.0011)	ND (0.00062)	ND (0.0005)	ND (0.00065)
Toluene	10000	10000	100	0.00067 (0.00055)	ND (0.0012)	ND (0.095)	ND (0.001)	ND (0.11)	ND (0.0011)	ND (0.00062)	ND (0.0005)	ND (0.00065)
1,2,4-Trimethylbenzene	4700	5400	300	0.00059 J (0.0028)	ND (0.0058)	ND (0.47)	ND (0.0052)	ND (0.53)	0.0767 (0.0054)	ND (0.0031)	ND (0.0025)	ND (0.0033)
1,3,5-Trimethylbenzene	4700	5400	93	0.00027 J (0.0028)	ND (0.0058)	ND (0.47)	ND (0.0052)	ND (0.53)	0.0316 (0.0054)	ND (0.0031)	ND (0.0025)	ND (0.0033)
Xylenes (total)	7900	9100	1000	0.005 (0.00055)	ND (0.0012)	ND (0.095)	ND (0.001)	ND (0.11)	0.0075 (0.0011)	ND (0.00062)	ND (0.0005)	ND (0.00065)
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	0.209 (0.036)	ND (0.1)	ND (0.11)	ND (0.036)	ND (0.073)	ND (0.12)	ND (0.037)	ND (0.037)	ND (0.037)
Benzo(a)anthracene	130	190000	340	0.468 (0.036)	ND (0.1)	ND (0.11)	0.0324 J (0.036)	ND (0.073)	ND (0.12)	0.0178 J (0.037)	ND (0.037)	ND (0.037)
Benzo(a)pyrene	91	190000	46	0.402 (0.036)	ND (0.1)	ND (0.11)	0.0368 (0.036)	ND (0.073)	ND (0.12)	ND (0.037)	ND (0.037)	ND (0.037)
Benzo(b)fluoranthene	76	190000	170	0.409 (0.036)	ND (0.1)	ND (0.11)	0.0379 (0.036)	ND (0.073)	ND (0.12)	ND (0.037)	ND (0.037)	ND (0.037)
Benzo(g,h,i)perylene	190000	190000	180	0.346 (0.036)	ND (0.1)	ND (0.11)	0.0288 J (0.036)	ND (0.073)	ND (0.12)	ND (0.037)	ND (0.037)	ND (0.037)
Chrysene	760	190000	230	0.729 (0.036)	ND (0.1)	ND (0.11)	0.0358 J (0.036)	ND (0.073)	ND (0.12)	0.0182 J (0.037)	ND (0.037)	ND (0.037)
Fluorene	130000	190000	3800	0.394 (0.036)	ND (0.1)	ND (0.11)	ND (0.036)	ND (0.073)	ND (0.12)	ND (0.037)	ND (0.037)	ND (0.037)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.036)	ND (0.1)	ND (0.11)	ND (0.036)	ND (0.073)	ND (0.12)	ND (0.037)	ND (0.037)	ND (0.037)
Phenanthrene	190000	190000	10000	0.839 (0.036)	ND (0.1)	ND (0.11)	0.0205 J (0.036)	ND (0.073)	ND (0.12)	ND (0.037)	ND (0.037)	ND (0.037)
Pyrene	96000	190000	2200	1.04 (0.036)	ND (0.1)	ND (0.11)	0.0401 (0.036)	ND (0.073)	ND (0.12)	0.026 J (0.037)	ND (0.037)	ND (0.037)
Metals												
Lead	1000	190000	450	258 (2.3)	2.6 (1)	6.3 (1)	44.3 (2.2)	64 (2.3)	5.5 (0.99)	10.5 (2.4)	9.5 (2.4)	22.2 (2.3)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	S-369	S-369	S-373	S-379	S-379	S-379	S-380	S-380	S-381
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	S-369@11'_04022013	S-369@32'_04022013	AOI4-S-373_4-6'	S-379_0-2'	S-379_4-5'	S-379_8-9'	S-380_0-2'	S-380_8-10	AOI4-S-381_2-3_31513
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	10.5 - 11.0	31.5 - 32.0	4.0 - 6.0	0.0 - 2.0	4.0 - 5.0	8.0 - 9.0	0.0 - 2.0	8.0 - 10.0	2.0 - 3.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	4/2/2013	4/2/2013	3/19/2013	2/28/2013	2/28/2013	2/28/2013	3/1/2013	3/1/2013	3/15/2013
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.00095)	4.4 (0.1)	1.25 (0.11)	ND (0.00088)	0.00024 J (0.00089)	ND (0.00045)	ND (0.0009)	ND (0.0006)	0.242 J (0.59)
Cumene	10000	10000	2500	ND (0.0048)	3.29 (0.51)	0.718 (0.54)	ND (0.0044)	ND (0.0044)	ND (0.0022)	ND (0.0045)	ND (0.003)	1.97 J (2.9)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00095)	ND (0.1)	ND (0.11)	ND (0.00088)	ND (0.00089)	ND (0.00045)	ND (0.0009)	ND (0.0006)	ND (0.59)
1,2-Dichloroethane	85	98	0.5	ND (0.00095)	ND (0.1)	ND (0.11)	ND (0.00088)	ND (0.00089)	ND (0.00045)	ND (0.0009)	ND (0.0006)	ND (0.59)
Ethyl Benzene	880	1000	70	ND (0.00095)	1.25 (0.1)	2.12 (0.11)	ND (0.00088)	ND (0.00089)	ND (0.00045)	ND (0.0009)	ND (0.0006)	5.54 (0.59)
Methyl tert-butyl ether	8500	9800	2	ND (0.00095)	ND (0.1)	ND (0.11)	ND (0.00088)	ND (0.00089)	ND (0.00045)	ND (0.0009)	ND (0.0006)	ND (0.59)
Toluene	10000	10000	100	ND (0.00095)	0.165 (0.1)	0.339 (0.11)	ND (0.00088)	ND (0.00089)	ND (0.00045)	ND (0.0009)	ND (0.0006)	0.419 J (0.59)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0048)	0.445 J (0.51)	2.56 (0.54)	ND (0.0044)	ND (0.0044)	ND (0.0022)	ND (0.0045)	ND (0.003)	29.9 (2.9)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0048)	0.8 (0.51)	2.88 (0.54)	ND (0.0044)	ND (0.0044)	ND (0.0022)	ND (0.0045)	ND (0.003)	11.9 (2.9)
Xylenes (total)	7900	9100	1000	ND (0.00095)	0.617 (0.1)	3.76 (0.11)	ND (0.00088)	ND (0.00089)	ND (0.00045)	ND (0.0009)	ND (0.0006)	17.7 (0.59)
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.04)	0.0934 (0.035)	ND (0.039)	ND (0.035)	0.0977 (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	ND (0.12)
Benzo(a)anthracene	130	190000	340	ND (0.04)	0.0356 (0.035)	ND (0.039)	ND (0.035)	0.223 (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	ND (0.12)
Benzo(a)pyrene	91	190000	46	ND (0.04)	ND (0.035)	ND (0.039)	ND (0.035)	0.194 (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	ND (0.12)
Benzo(b)fluoranthene	76	190000	170	ND (0.04)	ND (0.035)	ND (0.039)	ND (0.035)	0.225 (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	ND (0.12)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.04)	ND (0.035)	ND (0.039)	ND (0.035)	0.12 (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	ND (0.12)
Chrysene	760	190000	230	ND (0.04)	0.0477 (0.035)	ND (0.039)	ND (0.035)	0.229 (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	ND (0.12)
Fluorene	130000	190000	3800	ND (0.04)	0.402 (0.035)	0.221 (0.039)	ND (0.035)	0.043 (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	ND (0.12)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.04)	2.04 (0.035)	0.362 (0.039)	ND (0.035)	0.0194 J (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	1.18 (0.12)
Phenanthrene	190000	190000	10000	ND (0.04)	0.72 (0.035)	0.59 (0.039)	ND (0.035)	0.296 (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	ND (0.12)
Pyrene	96000	190000	2200	ND (0.04)	0.0898 (0.035)	ND (0.039)	ND (0.035)	0.351 (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	ND (0.12)
Metals												
Lead	1000	190000	450	10.7 (2.6)	4.4 (2.3)	8.5 (1.9)	1.5 J (2.2)	206 (2.4)	10 (2.4)	24.3 (2.4)	8.1 (2.5)	2650 (5.6)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	S-381	S-381	S-39D	S-39D	S-415	S-415	S-416	S-416
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	S-381 @ 12'_04242013	S-381 @ 24'_04252013	AOI4-S-39D-1.5-2-20160121	AOI4-S39D-7.5-8.0-20160208	AOI4_S-415_0-2_101215	AOI4_S-415_16-18_101215	AOI4-S-416-0-2-20160620	AOI4-S-416-14-15-20160711
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	11.5 - 12.0	23.5 - 24.0	1.5 - 2.0	7.5 - 8.0	0.0 - 2.0	16.0 - 18.0	0.0 - 2.0	14.0 - 15.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	4/24/2013	4/24/2013	1/21/2016	2/8/2016	10/12/2015	10/12/2015	6/20/2016	7/11/2016
Comments	(0-2 ft)	(2-15 ft)	MSCs								
Volatile Organic Compounds											
Benzene	280	330	0.5	0.0403 (0.00089)	1.11 (0.5)	ND (0.00065)	ND (0.00068)	0.0013 (0.00052)	ND (0.25)	0.00315 (0.00118)	ND (0.00112)
Cumene	10000	10000	2500	0.0033 J (0.0045)	11.7 (2.5)	ND (0.0026)	ND (0.0027)	ND (0.0021)	5.65 (1)	ND (0.0118)	ND (0.0112)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.0029)	ND (0.0029)	ND (0.0013)	NA	ND (0.0028)	ND (0.0026)	ND (0.00118)	ND (0.00112)
1,2-Dichloroethane	85	98	0.5	ND (0.00089)	ND (0.5)	ND (0.0013)	ND (0.0014)	ND (0.001)	ND (0.51)	ND (0.00118)	ND (0.00112)
Ethyl Benzene	880	1000	70	0.0021 (0.00089)	0.439 J (0.5)	ND (0.0013)	ND (0.0014)	ND (0.001)	ND (0.51)	ND (0.00118)	ND (0.00112)
Methyl tert-butyl ether	8500	9800	2	ND (0.00089)	ND (0.5)	ND (0.0013)	ND (0.0014)	ND (0.001)	ND (0.51)	ND (0.00118)	ND (0.00112)
Toluene	10000	10000	100	0.0076 (0.00089)	0.2 J (0.5)	ND (0.0013)	ND (0.0014)	0.00035 J (0.001)	ND (0.51)	ND (0.00591)	ND (0.00562)
1,2,4-Trimethylbenzene	4700	5400	300	0.0032 J (0.0045)	0.518 J (2.5)	ND (0.0026)	ND (0.0027)	ND (0.0021)	ND (1)	ND (0.00118)	ND (0.00112)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0045)	0.543 J (2.5)	ND (0.0026)	ND (0.0027)	ND (0.0021)	ND (1)	ND (0.00118)	ND (0.00112)
Xylenes (total)	7900	9100	1000	0.0056 (0.00089)	1.01 (0.5)	ND (0.0013)	ND (0.0014)	0.0007 J (0.001)	ND (0.51)	ND (0.00355)	ND (0.00337)
Semivolatile Organic Compounds											
Anthracene	190000	190000	350	ND (0.11)	1.79 (0.12)	ND (0.035)	ND (0.034)	0.0698 (0.037)	0.156 (0.035)	ND (0.039)	0.0505 (0.0371)
Benzo(a)anthracene	130	190000	340	ND (0.11)	ND (0.12)	ND (0.035)	ND (0.034)	0.249 (0.037)	0.0595 (0.035)	ND (0.039)	0.137 (0.0371)
Benzo(a)pyrene	91	190000	46	ND (0.11)	ND (0.12)	ND (0.035)	ND (0.034)	0.316 (0.037)	0.0379 (0.035)	ND (0.039)	0.104 (0.0371)
Benzo(b)fluoranthene	76	190000	170	ND (0.11)	ND (0.12)	ND (0.035)	ND (0.034)	0.395 (0.037)	0.0258 J (0.035)	0.0446 (0.039)	0.13 (0.0371)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.11)	ND (0.12)	ND (0.035)	ND (0.034)	0.228 (0.037)	0.0143 J (0.035)	ND (0.039)	0.0548 (0.0371)
Chrysene	760	190000	230	ND (0.11)	0.0624 J (0.12)	ND (0.035)	ND (0.034)	0.245 (0.037)	0.0736 (0.035)	ND (0.039)	0.118 (0.0371)
Fluorene	130000	190000	3800	ND (0.11)	5.02 (0.12)	ND (0.035)	ND (0.034)	0.0196 J (0.037)	0.536 (0.035)	ND (0.039)	ND (0.0371)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	ND (0.039)	0.0516 (0.0371)
Naphthalene	66	77	25	ND (0.11)	5.48 (0.12)	ND (0.035)	ND (0.034)	0.0651 (0.037)	ND (0.035)	ND (0.039)	ND (0.0371)
Phenanthrene	190000	190000	10000	ND (0.11)	13 (0.58)	ND (0.035)	ND (0.034)	0.254 (0.037)	1.04 (0.035)	ND (0.039)	0.164 (0.0371)
Pyrene	96000	190000	2200	ND (0.11)	1.11 (0.12)	ND (0.035)	ND (0.034)	0.329 (0.037)	0.143 (0.035)	ND (0.039)	0.219 (0.0371)
Metals											
Lead	1000	190000	450	8.5 (0.9)	5.6 (0.9)	49.5 (6.6)	5.2 (2.1)	241 (2.2)	3.9 (2.1)	86.2 (0.591)	63.5 (0.562)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	AOI4-BH-20-01	AOI4-BH-20-01	AOI4-BH-20-02	AOI4-BH-20-03	AOI4-BH-20-03	AOI4-BH-20-03	AOI4-BH-20-03	AOI4-BH-20-03	AOI4-BH-20-03
Field Sample ID	Groundwater MSC	CD-01-W-18-20200805	CD-01-W-41.5-20200807	CD-02-25-20200803	CD-3-W-25.0-20200728_410-14623-1	CD-3-W-25.0-20200728_410-8907-1	CD-3-W-46.0-20200729_410-14623-1	CD-3-W-46.0-20200729_410-9021-1	CD-3-W-82.0-20200730_410-14623-1	CD-3-W-82.0-20200730_410-9160-1
Sample Date	Used Aquifer	8/5/2020	8/7/2020	8/3/2020	7/28/2020	7/28/2020	7/29/2020	7/29/2020	7/30/2020	7/30/2020
Comments	(TDS ≤ 2500)									
Volatile Organic Compounds										
Benzene	0.005	0.00022 J (0.001)	0.45 (0.005)	2.4 (0.1)	NA	4.5 (0.05)	NA	0.39 (0.005)	NA	0.95 (0.005)
Cumene	3.5	0.04 (0.005)	0.015 J (0.025)	0.023 J (0.05)	NA	0.035 (0.025)	NA	0.0045 J (0.025)	NA	0.014 J (0.025)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000029)	ND (0.000029)	ND,H,H3 (0.00003)	NA	ND,H,H3 (0.000029)	NA	ND,H,H3 (0.000035)	NA
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.005)	ND (0.01)	NA	ND (0.005)	NA	ND (0.005)	NA	ND (0.005)
Ethyl Benzene	0.7	0.31 (0.01)	0.026 (0.005)	0.57 (0.01)	NA	0.76 (0.05)	NA	0.0057 (0.005)	NA	0.014 (0.005)
Methyl tert-butyl ether	0.02	0.0008 J (0.001)	0.011 (0.005)	ND (0.01)	NA	0.0012 J (0.005)	NA	0.014 (0.005)	NA	0.046 (0.005)
Toluene	1	0.0005 J (0.001)	0.054 (0.005)	4.2 (0.1)	NA	3.8 (0.05)	NA	0.051 (0.005)	NA	0.086 (0.005)
1,2,4-Trimethylbenzene	0.53	0.57 (0.05)	0.07 (0.025)	0.82 (0.05)	NA	0.73 (0.25)	NA	0.091 (0.025)	NA	ND (0.025)
1,3,5-Trimethylbenzene	0.53	0.24 (0.05)	0.026 (0.025)	0.26 (0.05)	NA	0.29 (0.025)	NA	0.038 (0.025)	NA	0.015 J (0.025)
Xylenes (total)	10	0.6 (0.06)	0.15 (0.03)	3.6 (0.06)	NA	1.9 (0.03)	NA	0.24 (0.03)	NA	0.22 (0.03)
Semivolatile Organic Compounds										
Anthracene	0.066	0.00029 J (0.00051)	0.00019 J (0.00051)	ND (0.0005)	NA	ND (0.00051)	NA	ND,H3 (0.00051)	NA	ND (0.00051)
Benzo(a)anthracene	0.0039	0.00043 J (0.00051)	0.00054 (0.00051)	ND (0.0005)	NA	ND (0.00051)	NA	ND (0.00051)	NA	ND (0.00051)
Benzo(a)pyrene	0.0002	0.00038 J (0.00051)	ND (0.00051)	ND (0.0005)	NA	ND (0.00051)	NA	ND,H3 (0.00051)	NA	ND (0.00051)
Benzo(b)fluoranthene	0.0012	0.00039 J (0.00051)	ND (0.00051)	ND (0.0005)	NA	ND (0.00051)	NA	ND,H3 (0.00051)	NA	ND (0.00051)
Benzo(g,h,i)perylene	0.00026	0.00025 J (0.00051)	ND (0.00051)	ND (0.0005)	NA	ND (0.00051)	NA	ND,H3 (0.00051)	NA	ND (0.00051)
Chrysene	0.0019	0.00056 (0.00051)	ND (0.00051)	ND (0.0005)	NA	ND (0.00051)	NA	ND (0.00051)	NA	ND (0.00051)
Fluorene	1.9	ND (0.00051)	0.0002 J (0.00051)	ND (0.0005)	NA	ND (0.00051)	NA	ND,H3 (0.00051)	NA	ND (0.00051)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.13 (0.0025)	0.0098 (0.00051)	0.24 (0.0025)	NA	0.28 (0.0051)	NA	0.0051 (0.00051)	NA	0.0016 (0.00051)
Phenanthrene	1.1	0.00089 (0.00051)	0.00064 (0.00051)	ND (0.0005)	NA	0.00012 J (0.00051)	NA	ND,H3 (0.00051)	NA	ND (0.00051)
Pyrene	0.13	0.00085 (0.00051)	0.00034 J (0.00051)	ND (0.0005)	NA	ND (0.00051)	NA	ND (0.00051)	NA	ND (0.00051)
Metals										
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.00052)	ND (0.00052)	ND (0.00052)	NA	ND (0.00052)	NA	ND (0.00052)	NA	ND (0.00052)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	AOI4-BH-20-04	AOI4-BH-20-04	ARCO-2	ARCO-2	ARCO-2	ARCO-2	ARCO-2	ARCO-2	ARCO-2	ARCO-2
Field Sample ID	Groundwater MSC	CD-6B-W-45.0-20200630_410-14623-1	CD-6B-W-45.0-20200630_410-6241-1	ARCO-2-20160818-WG	ARCO-2-20161011-WG	ARCO-2_20190708	ARCO-2_20191101	D-2_BASE_GRAB_20191205	D-2_20210507_410-39177-1	ARCO-2_20220330_42387	ARCO-2_20230502
Sample Date	Used Aquifer	6/30/2020	6/30/2020	8/18/2016	10/11/2016	7/8/2019	11/1/2019	12/5/2019	5/7/2021	3/30/2022	5/2/2023
Comments	(TDS ≤ 2500)										
Volatile Organic Compounds											
Benzene	0.005	NA	0.27 (0.005)	NA	NA	NA	0.26 (0.005)	0.33455 (0.018)	0.32 (0.005)	0.36 (0.0025)	0.304 (0.002)
Cumene	3.5	NA	0.01 J (0.025)	NA	NA	NA	0.04 (0.025)	0.05867 (0.0006)	0.081 (0.025)	0.0795 (0.001)	0.0884 (0.001)
1,2-Dibromoethane	0.00005	ND,H,H3 (0.000029)	NA	NA	NA	NA	ND (0.000028)	ND (0.00271)	ND (0.000028)	ND (0.00002)	ND (0.000032)
1,2-Dichloroethane	0.005	NA	ND (0.005)	NA	NA	NA	ND (0.025)	ND (0.00135)	ND (0.005)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	NA	0.044 (0.005)	NA	NA	NA	0.009 (0.005)	0.0105 (0.0006)	0.018 (0.005)	0.009 (0.001)	0.0115 (0.001)
Methyl tert-butyl ether	0.02	NA	0.0093 (0.005)	NA	NA	NA	ND (0.005)	ND (0.00045)	ND (0.005)	ND (0.001)	ND (0.001)
Toluene	1	NA	0.069 (0.005)	NA	NA	NA	0.026 (0.005)	0.03576 (0.00045)	0.04 (0.005)	0.0374 (0.001)	0.0416 (0.001)
1,2,4-Trimethylbenzene	0.53	NA	0.15 (0.025)	NA	NA	NA	0.004 J (0.025)	ND (0.0006)	ND (0.025)	ND (0.002)	ND (0.002)
1,3,5-Trimethylbenzene	0.53	NA	0.058 (0.025)	NA	NA	NA	0.004 J (0.025)	0.00413 (0.0006)	0.0058 J (0.025)	0.0043 (0.002)	0.0048 (0.002)
Xylenes (total)	10	NA	0.32 (0.03)	NA	NA	NA	0.043 (0.015)	0.03569 J (0.0006)	0.076 (0.03)	0.0707 (0.001)	0.0772 (0.001)
Semivolatile Organic Compounds											
Anthracene	0.066	NA	ND (0.00052)	NA	NA	0.0001 J (0.0005)	ND (0.0005)	NA	0.00012 J (0.00052)	0.000115 (0.000075)	0.00011 (0.000083)
Benzo(a)anthracene	0.0039	NA	ND (0.00052)	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000038)	ND (0.000042)
Benzo(a)pyrene	0.0002	NA	ND (0.00052)	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000038)	ND (0.000042)
Benzo(b)fluoranthene	0.0012	NA	ND (0.00052)	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000038)	ND (0.000042)
Benzo(g,h,i)perylene	0.00026	NA	ND (0.00052)	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000075)	ND (0.000083)
Chrysene	0.0019	NA	ND (0.00052)	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000075)	ND (0.000083)
Fluorene	1.9	NA	ND (0.00052)	NA	NA	0.002 (0.0005)	0.001 (0.0005)	NA	0.0018 (0.00052)	0.00114 (0.000075)	0.00134 (0.000083)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	ND,OE (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	NA	0.022 (0.00052)	NA	NA	NA	ND (0.0005)	ND (0.00151)	0.0016 (0.00052)	0.000915 B (0.000075)	ND (0.000083)
Phenanthrene	1.1	NA	ND (0.00052)	NA	NA	0.002 (0.0005)	0.0004 J (0.0005)	NA	0.0014 (0.00052)	0.000969 (0.000075)	0.000969 (0.000083)
Pyrene	0.13	NA	ND (0.00052)	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	0.0000524 J (0.000075)	0.0000486 J (0.000083)
Metals											
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	0.011 (0.00052)	NA	NA	ND (0.003)	0.00024 J (0.0005)	NA	0.0001 J (0.00052)	ND (0.001)	ND (0.001)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:
ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	ARCO-3	ARCO-3	ARCO-3	ARCO-3	ARCO-3	ARCO-3	ARCO-3	ARCO-3	BF-101	BF-101	BF-101
Field Sample ID	Groundwater MSC	ARCO-3-20160818-WG	ARCO-3-20161011-WG	ARCO-3_20190708	ARCO-3_20191101	ARCO-3_BASE_GRAB_20191205	ARCO-3_20210507_410-39177-1	ARCO-3_20220330_42387	ARCO-3_20230502	AOI3_BF-101_060515	AOI3_BF-101_061615	AOI3_BF-101_010616
Sample Date	Used Aquifer	8/18/2016	10/11/2016	7/8/2019	11/1/2019	12/5/2019	5/7/2021	3/30/2022	5/2/2023	6/5/2015	6/16/2015	1/6/2016
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	NA	NA	1.6 (0.05)	1.43388 (0.018)	1.8 (0.05)	2.81 (0.05)	1.88 (0.01)	ND (0.001)	NA	ND (0.0005)
Cumene	3.5	NA	NA	NA	0.051 (0.025)	0.05599 (0.0006)	0.071 (0.025)	0.0619 (0.01)	0.0601 (0.005)	ND (0.001)	NA	ND (0.001)
1,2-Dibromoethane	0.00005	NA	NA	NA	ND (0.000028)	ND (0.00271)	ND (0.000028)	ND (0.00002)	ND (0.00002)	ND (0.00004)	NA	ND (0.000019)
1,2-Dichloroethane	0.005	NA	NA	NA	ND (0.025)	ND (0.00135)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.001)	NA	ND (0.001)
Ethyl Benzene	0.7	NA	NA	NA	0.031 (0.005)	0.04325 (0.0006)	0.043 (0.005)	0.0534 (0.01)	0.0234 (0.005)	0.0022 (0.001)	NA	ND (0.001)
Methyl tert-butyl ether	0.02	NA	NA	NA	ND (0.005)	0.00067 J (0.00045)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.001)	NA	ND (0.001)
Toluene	1	NA	NA	NA	0.068 (0.005)	0.11218 (0.00453)	0.095 (0.005)	0.129 (0.01)	0.09 (0.005)	0.004 (0.001)	NA	ND (0.001)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	0.011 J (0.025)	0.01275 (0.0006)	0.0072 J (0.025)	ND (0.02)	0.0077 J (0.01)	0.0026 (0.001)	NA	ND (0.002)
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	0.013 J (0.025)	0.01672 (0.0006)	0.012 J (0.025)	0.0145 J (0.02)	0.0139 (0.01)	0.00077 J (0.001)	NA	ND (0.002)
Xylenes (total)	10	NA	NA	NA	0.074 (0.015)	0.10489 J (0.0006)	0.097 (0.03)	0.103 (0.01)	0.093 (0.005)	0.0122 (0.003)	NA	ND (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	0.0002 J (0.0005)	ND (0.0005)	NA	0.00012 J (0.00052)	0.000147 (0.000074)	0.0000797 J (0.000083)	NA	0.000025 J (0.0001)	ND (0.00011)
Benzo(a)anthracene	0.0039	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000037)	ND (0.000042)	NA	ND (0.0001)	ND (0.000056)
Benzo(a)pyrene	0.0002	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000037)	ND (0.000042)	NA	ND (0.0001)	ND (0.000056)
Benzo(b)fluoranthene	0.0012	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000037)	ND (0.000042)	NA	ND (0.0001)	ND (0.00011)
Benzo(g,h,i)perylene	0.00026	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000074)	ND (0.000083)	NA	ND (0.0001)	ND (0.00011)
Chrysene	0.0019	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000074)	ND (0.000083)	NA	ND (0.0001)	ND (0.00011)
Fluorene	1.9	NA	NA	0.002 (0.0005)	0.001 (0.0005)	NA	0.0015 (0.00052)	0.00112 (0.000074)	0.000971 (0.000083)	NA	ND (0.0001)	ND (0.00011)
Indeno(1,2,3-cd)pyrene	0.0023	ND,OE (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	NA	NA	NA	0.009 (0.0005)	0.03892 (0.00151)	0.014 (0.00052)	0.0151 B (0.00074)	0.0033 (0.000083)	NA	ND (0.0001)	ND (0.00011)
Phenanthrene	1.1	NA	NA	0.001 (0.0005)	0.0009 (0.0005)	NA	0.0011 (0.00052)	0.000766 (0.000074)	0.000695 (0.000083)	NA	ND (0.0001)	ND (0.00011)
Pyrene	0.13	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	0.0000407 J (0.000074)	0.0000423 J (0.000083)	NA	ND (0.0001)	ND (0.00011)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	ND (0.003)	0.00018 J (0.0005)	NA	0.00022 J (0.00052)	ND (0.001)	ND (0.001)	ND (0.005)	NA	ND (0.003)

Notes:

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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
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SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	MW-1	MW-1	RW-700	RW-700	RW-700	RW-700	RW-700	RW-700	RW-700	RW-700	RW-700
Field Sample ID	Groundwater MSC	MW1-050605	MW-4_06_17_2013	RW-700-121312	RW 700	RW-700-20160817-WG	RW-700-20160817-WG DUP	RW-700-20161012-WG	RW-700_20230208	RW-700_20230302	RW-700_20230321	RW-700_20230425
Sample Date	Used Aquifer	5/6/2005	6/17/2013	12/13/2012	2/26/2014	8/17/2016	8/17/2016	10/12/2016	2/8/2023	3/2/2023	3/21/2023	4/25/2023
Comments	(TDS ≤ 2500)						Field Duplicate					
Volatile Organic Compounds												
Benzene	0.005	0.1 (0.005)	0.128 MS (0.001)	NA	NA	NA	NA	NA	0.0043 (0.0005)	0.0107 (0.0005)	0.0234 (0.0005)	0.123 (0.0005)
Cumene	3.5	0.01 (0.005)	0.0035 MS (0.002)	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-Dibromoethane	0.00005	ND (0.000028)	ND,MS (0.00002)	NA	NA	NA	NA	NA	ND (0.00002)	ND (0.00002)	ND (0.000021)	ND (0.000021)
1,2-Dichloroethane	0.005	ND (0.005)	ND,MS (0.001)	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.019 (0.005)	0.00091 J,MS (0.001)	NA	NA	NA	NA	NA	0.00088 J (0.001)	0.0034 (0.001)	0.0022 (0.001)	0.0012 (0.001)
Methyl tert-butyl ether	0.02	ND (0.005)	0.0112 MS (0.001)	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Toluene	1	0.01 (0.005)	0.0101 MS (0.001)	NA	NA	NA	NA	NA	ND (0.001)	0.0034 (0.001)	0.0019 (0.001)	0.003 (0.001)
1,2,4-Trimethylbenzene	0.53	NA	0.0015 J,MS (0.002)	NA	NA	NA	NA	NA	0.0017 J (0.002)	0.0094 (0.002)	0.0045 (0.002)	0.0069 (0.002)
1,3,5-Trimethylbenzene	0.53	NA	0.0037 MS (0.002)	NA	NA	NA	NA	NA	ND (0.002)	0.0042 (0.002)	0.0015 J (0.002)	0.0016 J (0.002)
Xylenes (total)	10	0.027 (0.005)	0.0081 MS (0.001)	NA	NA	NA	NA	NA	0.0046 (0.001)	0.0188 (0.001)	0.0106 (0.001)	0.008 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	ND,MS (0.00011)	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000082)	ND (0.000083)	0.000166 (0.00008)
Benzo(a)anthracene	0.0039	NA	0.00244 MS (0.00011)	NA	NA	NA	NA	NA	ND (0.00004)	ND (0.000041)	0.0000266 J (0.000042)	0.0000369 J (0.00004)
Benzo(a)pyrene	0.0002	NA	0.00245 MS (0.00011)	NA	NA	NA	NA	NA	ND (0.00004)	ND (0.000041)	ND (0.000042)	ND (0.00004)
Benzo(b)fluoranthene	0.0012	NA	0.00248 MS (0.00011)	NA	NA	NA	NA	NA	ND (0.00004)	ND (0.000041)	0.0000498 (0.000042)	ND (0.00004)
Benzo(g,h,i)perylene	0.00026	NA	0.00183 MS (0.00011)	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000082)	0.000115 (0.000083)	ND (0.00008)
Chrysene	0.0019	ND (0.01)	0.00294 MS (0.00011)	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000082)	0.0000521 J (0.000083)	ND (0.00008)
Fluorene	1.9	ND (0.01)	ND,MS (0.00011)	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000082)	0.0000483 J (0.000083)	0.000414 (0.00008)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	ND (0.0025)	NA	NA	NA	NA
Naphthalene	0.1	0.032 (0.01)	0.0277 MS (0.0011)	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000082)	0.0000746 J (0.000083)	0.000687 (0.00008)
Phenanthrene	1.1	ND (0.01)	0.00454 MS (0.00011)	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000082)	0.0000481 J (0.000083)	0.000301 (0.00008)
Pyrene	0.13	ND (0.01)	0.00372 MS (0.00011)	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000082)	ND (0.000083)	0.000147 (0.00008)
Metals												
Lead	0.005	ND (0.001)	NA	NA	0.0042 (0.003)	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	ND,MS (0.003)	ND (0.003)	NA	ND (0.002)	ND (0.002)	ND (0.002)	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
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OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
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XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-700	RW-701	RW-701	RW-701	RW-701	RW-701	RW-701	RW-701	RW-701	RW-701	RW-701
Field Sample ID	Groundwater MSC	RW-700_20230531	RW 701	RW-701-20160817-WG	RW-701-20161012-WG	RW-701_20180629	RW-701_20190620	RW-701_20191028	RW-701_20210510	RW-701_20220406	RW-701_20230425	RW-701_20230531
Sample Date	Used Aquifer	5/31/2023	2/26/2014	8/17/2016	10/12/2016	6/29/2018	6/20/2019	10/28/2019	5/10/2021	4/6/2022	4/25/2023	5/31/2023
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.044 (0.0005)	NA	NA	NA	NA	NA	NA	NA	NA	0.11 (0.0005)	0.19 (0.005)
Cumene	3.5	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)
1,2-Dibromoethane	0.00005	ND (0.00002)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.000021)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.0015 (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	0.0084 (0.001)	0.0155 (0.001)
Methyl tert-butyl ether	0.02	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)
Toluene	1	0.0015 (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	0.003 (0.001)	0.0052 (0.001)
1,2,4-Trimethylbenzene	0.53	0.0046 (0.002)	NA	NA	NA	NA	NA	NA	NA	NA	0.0133 (0.002)	0.035 (0.002)
1,3,5-Trimethylbenzene	0.53	ND (0.002)	NA	NA	NA	NA	NA	NA	NA	NA	0.0015 J (0.002)	0.0125 (0.002)
Xylenes (total)	10	0.0065 (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	0.011 (0.001)	0.0443 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	0.0000403 J (0.00008)	NA	NA	NA	NA	NA	NA	NA	NA	0.000134 (0.00008)	0.0000649 J (0.000083)
Benzo(a)anthracene	0.0039	0.0000445 (0.00004)	NA	NA	NA	NA	NA	NA	NA	NA	0.0000278 J (0.00004)	ND (0.000042)
Benzo(a)pyrene	0.0002	0.0000311 J (0.00004)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00004)	ND (0.000042)
Benzo(b)fluoranthene	0.0012	0.000128 (0.00004)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00004)	ND (0.000042)
Benzo(g,h,i)perylene	0.00026	0.000159 (0.00008)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000083)
Chrysene	0.0019	0.0000455 J (0.00008)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000083)
Fluorene	1.9	0.0000825 (0.00008)	NA	NA	NA	NA	NA	NA	NA	NA	0.000416 (0.00008)	0.000153 (0.000083)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	ND (0.00005)	ND (0.0025)	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.000154 B (0.00008)	NA	NA	NA	NA	NA	NA	NA	NA	0.000469 (0.00008)	0.000479 B (0.000083)
Phenanthrene	1.1	0.0000572 JB (0.00008)	NA	NA	NA	NA	NA	NA	NA	NA	0.000277 (0.00008)	0.000089 B (0.000083)
Pyrene	0.13	0.0000473 J (0.00008)	NA	NA	NA	NA	NA	NA	NA	NA	0.000118 (0.00008)	0.0000631 J (0.000083)
Metals												
Lead	0.005	NA	0.0053 (0.003)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	NA	ND,SL (0.002)	ND (0.003)	0.00057 (0.0005)	0.00026 J (0.00052)	ND (0.001)	NA	NA

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
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Abbreviations:
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H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-701	RW-701	RW-701	RW-702	RW-702	RW-702	RW-702	RW-702	RW-702	RW-702	RW-702
Field Sample ID	Groundwater MSC	RW-701_20230912	RW-701_20231019	RW-701_20231215	RW-702_12142012	RW 702	RW-702-20160817-WG	RW-702-20161012-WG	RW-702_20230426	RW-702_20230531	RW-702_20230912	RW-702_20231019
Sample Date	Used Aquifer	9/12/2023	10/19/2023	12/15/2023	12/14/2012	2/26/2014	8/17/2016	10/12/2016	4/26/2023	5/31/2023	9/12/2023	10/19/2023
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.0116 (0.0005)	0.0052 (0.0005)	0.00059 (0.0005)	NA	NA	NA	NA	8.59 (0.025)	9.7 (0.025)	9.67 (0.05)	6.8 (0.025)
Cumene	3.5	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	NA	ND (0.05)	ND (0.05)	0.0251 (0.025)	ND (0.05)
1,2-Dibromoethane	0.00005	ND (0.000021)	ND (0.000021)	ND (0.000021)	NA	NA	NA	NA	ND (0.00002)	ND (0.00002)	ND (0.000021)	ND (0.000021)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	NA	ND (0.05)	ND (0.05)	ND (0.025)	ND (0.05)
Ethyl Benzene	0.7	0.0011 (0.001)	0.00061 J (0.001)	ND (0.001)	NA	NA	NA	NA	0.466 (0.05)	0.353 (0.05)	0.602 (0.025)	0.456 (0.05)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	NA	0.0456 J (0.05)	0.041 J (0.05)	0.0401 (0.025)	0.0374 J (0.05)
Toluene	1	0.001 (0.001)	0.0008 J (0.001)	ND (0.001)	NA	NA	NA	NA	0.316 (0.05)	0.302 (0.05)	0.291 (0.025)	0.215 (0.05)
1,2,4-Trimethylbenzene	0.53	0.004 (0.002)	0.0025 (0.002)	0.0015 J (0.002)	NA	NA	NA	NA	0.491 (0.1)	0.157 (0.1)	0.53 (0.05)	0.433 (0.1)
1,3,5-Trimethylbenzene	0.53	0.002 (0.002)	0.0014 J (0.002)	ND (0.002)	NA	NA	NA	NA	0.154 (0.1)	0.059 J (0.1)	0.17 (0.05)	0.137 (0.1)
Xylenes (total)	10	0.0041 (0.001)	0.002 (0.001)	ND (0.001)	NA	NA	NA	NA	2.5 (0.05)	1.56 (0.05)	2.62 (0.025)	1.93 (0.05)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00011)	ND (0.000074)	ND (0.000077)	NA	NA	NA	NA	0.000736 (0.000074)	0.000624 (0.000083)	0.000247 (0.00011)	0.000371 (0.00008)
Benzo(a)anthracene	0.0039	0.000123 (0.000053)	ND (0.000037)	ND (0.000038)	NA	NA	NA	NA	ND (0.000037)	ND (0.000042)	ND (0.000056)	ND (0.00004)
Benzo(a)pyrene	0.0002	0.0000503 JB (0.000053)	ND (0.000037)	ND (0.000038)	NA	NA	NA	NA	ND (0.000037)	ND (0.000042)	ND (0.000056)	ND (0.00004)
Benzo(b)fluoranthene	0.0012	0.0000963 B (0.000053)	ND (0.000037)	0.0000282 J (0.000038)	NA	NA	NA	NA	ND (0.000037)	ND (0.000042)	ND (0.000056)	ND (0.00004)
Benzo(g,h,i)perylene	0.00026	ND (0.00011)	ND (0.000074)	ND (0.000077)	NA	NA	NA	NA	ND (0.000074)	ND (0.000083)	ND (0.00011)	ND (0.00008)
Chrysene	0.0019	0.000128 (0.00011)	ND (0.000074)	ND (0.000077)	NA	NA	NA	NA	ND (0.000074)	ND (0.000083)	ND (0.00011)	ND (0.00008)
Fluorene	1.9	ND (0.00011)	ND (0.000074)	ND (0.000077)	NA	NA	NA	NA	0.00245 (0.000074)	0.00223 (0.000083)	0.00186 (0.00011)	0.00159 (0.00008)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.0025)	NA	NA	NA	NA
Naphthalene	0.1	0.00031 (0.00011)	ND (0.000074)	0.0000518 J (0.000077)	NA	NA	NA	NA	0.116 (0.0037)	0.144 B (0.017)	0.0862 (0.0022)	0.0852 (0.0032)
Phenanthrene	1.1	ND (0.00011)	ND (0.000074)	ND (0.000077)	NA	NA	NA	NA	0.00548 (0.0037)	0.00706 B (0.00042)	0.0026 B (0.00011)	0.0022 (0.00008)
Pyrene	0.13	0.0000618 J (0.00011)	ND (0.000074)	ND (0.000077)	NA	NA	NA	NA	0.000142 (0.000074)	0.0000936 (0.000083)	0.0000784 J (0.00011)	0.0000803 (0.00008)
Metals												
Lead	0.005	NA	NA	NA	NA	0.0044 (0.003)	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	ND (0.003)	NA	ND (0.002)	ND (0.002)	NA	NA	NA	NA

Notes:

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3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

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J+ - Indicates an estimated value that is biased high
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
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SL - Sample was collected below LNAPL
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XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-702	RW-703	RW-703	RW-703	RW-703	RW-703	RW-703	RW-703	RW-703	RW-703	RW-703
Field Sample ID	Groundwater MSC	RW-702_20231213	RW 703	RW-703-20160817-WG	RW-703-20161012-WG	RW-703_20190620	RW-703_20191029	RW-703_20200903	03_20210510_410-39343-1	RW-703_20220405_42610	RW-703_20230425	RW-703_20230531
Sample Date	Used Aquifer	12/13/2023	2/26/2014	8/17/2016	10/12/2016	6/20/2019	10/29/2019	9/3/2020	5/10/2021	4/5/2022	4/25/2023	5/31/2023
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	8.88 (0.05)	NA	NA	NA	NA	NA	NA	NA	NA	4.65 (0.05)	5.39 (0.025)
Cumene	3.5	0.0274 (0.025)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.025)	ND (0.02)
1,2-Dibromoethane	0.00005	ND (0.00002)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00002)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.025)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.025)	ND (0.02)
Ethyl Benzene	0.7	0.667 (0.025)	NA	NA	NA	NA	NA	NA	NA	NA	0.352 (0.025)	0.358 (0.02)
Methyl tert-butyl ether	0.02	0.039 (0.025)	NA	NA	NA	NA	NA	NA	NA	NA	0.0535 (0.025)	0.0515 (0.02)
Toluene	1	0.317 (0.025)	NA	NA	NA	NA	NA	NA	NA	NA	0.144 (0.025)	0.131 (0.02)
1,2,4-Trimethylbenzene	0.53	0.591 (0.05)	NA	NA	NA	NA	NA	NA	NA	NA	0.396 (0.05)	0.454 (0.04)
1,3,5-Trimethylbenzene	0.53	0.185 (0.05)	NA	NA	NA	NA	NA	NA	NA	NA	0.144 (0.05)	0.173 (0.04)
Xylenes (total)	10	2.88 (0.025)	NA	NA	NA	NA	NA	NA	NA	NA	1.97 (0.025)	2.04 (0.02)
Semivolatile Organic Compounds												
Anthracene	0.066	0.000363 B,H (0.000074)	NA	NA	NA	NA	NA	NA	NA	NA	0.000199 (0.00008)	0.000604 (0.000082)
Benzo(a)anthracene	0.0039	ND,H (0.000037)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00004)	ND (0.000041)
Benzo(a)pyrene	0.0002	ND,H (0.000037)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00004)	ND (0.000041)
Benzo(b)fluoranthene	0.0012	ND,H (0.000037)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00004)	ND (0.000041)
Benzo(g,h,i)perylene	0.00026	ND,H (0.000074)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000082)
Chrysene	0.0019	ND,H (0.000074)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000082)
Fluorene	1.9	0.00195 B,H (0.000074)	NA	NA	NA	NA	NA	NA	NA	NA	0.00146 (0.00008)	0.00337 (0.000082)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	ND (0.0001)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.0857 H (0.003)	NA	NA	NA	NA	NA	NA	NA	NA	0.0196 (0.0004)	0.0677 B (0.016)
Phenanthrene	1.1	0.0028 B,H (0.000074)	NA	NA	NA	NA	NA	NA	NA	NA	0.00162 (0.00008)	0.00263 B (0.000082)
Pyrene	0.13	0.000136 H (0.000074)	NA	NA	NA	NA	NA	NA	NA	NA	0.0000777 J (0.00008)	0.000137 (0.000082)
Metals												
Lead	0.005	NA	0.0031 (0.003)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	NA	ND (0.003)	0.00053 (0.0005)	ND (0.00052)	ND (0.00052)	ND (0.001)	NA	NA

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-703	RW-703	RW-703	RW-704	RW-704	RW-704	RW-704	RW-704	RW-704	RW-704	RW-704
Field Sample ID	Groundwater MSC	RW-703_20230912	RW-703_20231019	RW-703_20231215	RW-704_12142012	RW 704	RW-704-20161013-WG	RW-704_20230208	RW-704_20230302	RW-704_20230321	RW-704_20230425	RW-704_20230531
Sample Date	Used Aquifer	9/12/2023	10/19/2023	12/15/2023	12/14/2012	2/26/2014	10/13/2016	2/8/2023	3/2/2023	3/21/2023	4/25/2023	5/31/2023
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	9.29 (0.05)	6.16 (0.025)	5.54 (0.025)	NA	NA	NA	2.75 (0.025)	4.01 (0.013)	3.11 (0.05)	3.92 (0.013)	2.57 (0.025)
Cumene	3.5	ND (0.025)	ND (0.05)	0.0133 J (0.02)	NA	NA	NA	ND (0.005)	ND (0.025)	ND (0.01)	ND (0.025)	ND (0.01)
1,2-Dibromoethane	0.00005	ND (0.000021)	ND (0.000019)	ND (0.00002)	NA	NA	NA	ND (0.00002)	ND (0.00002)	ND (0.00002)	ND (0.000021)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.025)	ND (0.05)	ND (0.02)	NA	NA	NA	ND (0.005)	ND (0.025)	ND (0.01)	ND (0.025)	ND (0.01)
Ethyl Benzene	0.7	0.367 (0.025)	0.419 (0.05)	0.46 (0.02)	NA	NA	NA	0.015 (0.005)	0.119 (0.025)	0.116 (0.01)	0.177 (0.025)	0.127 (0.01)
Methyl tert-butyl ether	0.02	0.0454 (0.025)	0.0759 (0.05)	0.104 (0.02)	NA	NA	NA	ND (0.005)	ND (0.025)	ND (0.01)	ND (0.025)	ND (0.01)
Toluene	1	0.192 (0.025)	0.207 (0.05)	0.218 (0.02)	NA	NA	NA	0.136 (0.005)	2.63 (0.025)	1.9 (0.1)	2.81 (0.025)	1.08 (0.01)
1,2,4-Trimethylbenzene	0.53	0.424 (0.05)	0.437 (0.1)	0.448 (0.04)	NA	NA	NA	0.0628 (0.01)	0.124 (0.05)	0.122 (0.02)	0.0998 (0.05)	0.21 (0.02)
1,3,5-Trimethylbenzene	0.53	0.169 (0.05)	0.162 (0.1)	0.162 (0.04)	NA	NA	NA	0.0304 (0.01)	0.0555 (0.05)	0.0534 (0.02)	0.0408 J (0.05)	0.0744 (0.02)
Xylenes (total)	10	1.95 (0.025)	1.92 (0.05)	2.02 (0.02)	NA	NA	NA	0.378 (0.005)	1.14 (0.025)	1.09 (0.01)	1.14 (0.025)	0.924 (0.01)
Semivolatile Organic Compounds												
Anthracene	0.066	0.000635 (0.000074)	ND,H (0.000077)	0.000392 B (0.00008)	NA	NA	NA	ND (0.00042)	0.000184 (0.000081)	0.00023 (0.00017)	0.00036 (0.00008)	0.00129 (0.00008)
Benzo(a)anthracene	0.0039	ND (0.000037)	ND,H (0.000038)	0.0000339 J (0.00004)	NA	NA	NA	ND (0.00021)	ND (0.000041)	ND (0.000083)	ND (0.00004)	0.00004 (0.00004)
Benzo(a)pyrene	0.0002	ND (0.000037)	ND,H (0.000038)	ND (0.00004)	NA	NA	NA	ND (0.00021)	ND (0.000041)	ND (0.000083)	ND (0.00004)	0.0000299 J (0.00004)
Benzo(b)fluoranthene	0.0012	ND (0.000037)	ND,H (0.000038)	0.0000301 J (0.00004)	NA	NA	NA	ND (0.00021)	ND (0.000041)	ND (0.000083)	ND (0.00004)	0.0000452 (0.00004)
Benzo(g,h,i)perylene	0.00026	ND (0.000074)	ND,H (0.000077)	ND (0.00008)	NA	NA	NA	ND (0.00042)	ND (0.000081)	ND (0.00017)	ND (0.00008)	ND (0.00008)
Chrysene	0.0019	ND (0.000074)	ND,H (0.000077)	0.0000464 J (0.00008)	NA	NA	NA	ND (0.00042)	ND (0.000081)	ND (0.00017)	ND (0.00008)	0.0000874 (0.00008)
Fluorene	1.9	0.00193 (0.000074)	0.0026 H (0.000077)	0.00261 B (0.00008)	NA	NA	NA	0.00151 (0.00042)	0.0006 (0.000081)	0.000898 (0.00017)	0.00115 (0.00008)	0.00179 (0.00008)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	ND (0.00005)	NA	NA	NA	NA	NA
Naphthalene	0.1	0.113 (0.003)	0.0337 H (0.00077)	0.0655 (0.0015)	NA	NA	NA	ND (0.00042)	0.000746 (0.000081)	0.00549 (0.00017)	0.0154 (0.0004)	0.00748 B (0.0004)
Phenanthrene	1.1	0.0103 (0.0015)	0.00817 B,H (0.00077)	0.00278 B (0.00008)	NA	NA	NA	0.000305 J (0.00042)	0.000247 (0.000081)	0.000914 (0.00017)	0.00229 (0.00008)	0.00969 B (0.0004)
Pyrene	0.13	0.000288 (0.000074)	0.000363 H (0.000077)	0.000274 (0.00008)	NA	NA	NA	0.000493 (0.00042)	0.000113 (0.000081)	0.000144 J (0.00017)	0.000109 (0.00008)	0.000732 (0.00008)
Metals												
Lead	0.005	NA	NA	NA	NA	0.0091 (0.003)	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	ND (0.003)	NA	ND (0.002)	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-705	RW-705	RW-705	RW-705	RW-705	RW-705	RW-705	RW-706	RW-706	RW-706	RW-706
Field Sample ID	Groundwater MSC	RW-705_101910	RW-705-121312	RW-705_040314	RW-705_20150318	AOI4_RW-705_021616	RW-705-20160816-WG	RW-705-20161012-WG	RW-706_101910	RW-706-121312	RW-706_040314	RW-706_20150318
Sample Date	Used Aquifer	10/19/2010	12/13/2012	4/4/2014	3/18/2015	2/16/2016	8/16/2016	10/12/2016	10/19/2010	12/13/2012	4/4/2014	3/18/2015
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	NA	0.012 (0.0025)	0.076 (0.001)	0.0385 (0.001)	0.0456 (0.001)	0.00599 (0.001)	5.1 (0.2)	3.54 (0.1)	6.02 (0.025)	8.3 (0.2)
Cumene	3.5	NA	NA	NA	NA	NA	0.00553 (0.001)	0.00125 (0.001)	NA	NA	NA	NA
1,2-Dibromoethane	0.00005	NA	NA	NA	NA	NA	ND (0.00001)	ND (0.00001)	NA	NA	NA	NA
1,2-Dichloroethane	0.005	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	NA	NA	NA	NA
Ethyl Benzene	0.7	NA	NA	0.0722 (0.0025)	0.075 (0.001)	ND (0.001)	0.0652 (0.001)	0.0078 (0.001)	3 (0.02)	0.728 (0.1)	0.872 (0.025)	0.95 (0.02)
Methyl tert-butyl ether	0.02	ND (0.02)	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.02)	NA	NA	NA
Toluene	1	NA	NA	0.0624 (0.005)	0.1 (0.001)	0.0193 (0.001)	0.0392 (0.005)	ND (0.005)	14 (0.2)	5.17 (0.1)	4.8 (0.05)	5.8 (0.2)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	0.116 (0.001)	0.0181 (0.001)	NA	NA	NA	NA
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	0.0312 (0.001)	0.00524 (0.001)	NA	NA	NA	NA
Xylenes (total)	10	NA	NA	0.256 (0.005)	0.42 (0.001)	ND (0.003)	0.25 (0.003)	0.0187 (0.003)	10 (0.2)	3.95 (0.1)	4.62 (0.05)	5.2 (0.02)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	NA	NA	0.0000929 (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(a)anthracene	0.0039	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(a)pyrene	0.0002	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(b)fluoranthene	0.0012	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Chrysene	0.0019	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Fluorene	1.9	NA	NA	NA	NA	NA	0.000618 (0.00005)	0.000102 (0.00005)	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Naphthalene	0.1	NA	NA	NA	NA	NA	0.0217 (0.00025)	0.00109 (0.00025)	NA	NA	NA	NA
Phenanthrene	1.1	NA	NA	NA	NA	NA	0.000521 (0.00005)	ND (0.00005)	NA	NA	NA	NA
Pyrene	0.13	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	ND (0.003)	NA	NA	NA	ND (0.002)	ND (0.002)	NA	ND (0.003)	NA	NA

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

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J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-706	RW-707	RW-707	RW-707	RW-707	RW-707	RW-707	RW-708	RW-708	RW-708	RW-708
Field Sample ID	Groundwater MSC	AOI4_RW-706_021616	RW-707_102110	RW-707_12142012	RW-707_06_14_2013	RW-707_040314	RW-707_20150318	AOI4_RW-707_021616	RW-708-20161013-WG	RW-708_20190620	RW-708_20191028	RW-708_20210503
Sample Date	Used Aquifer	2/16/2016	10/21/2010	12/14/2012	6/14/2013	4/4/2014	3/18/2015	2/16/2016	10/13/2016	6/20/2019	10/28/2019	5/3/2021
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	5.73 (0.05)	NA	3.98 (0.05)	0.605 (0.005)	0.0396 (0.0025)	0.021 (0.001)	0.318 (0.001)	NA	0.51 (0.005)	0.0006 J (0.001)	0.099 (0.001)
Cumene	3.5	NA	NA	NA	0.0306 (0.01)	NA	NA	NA	NA	0.012 (0.005)	0.0004 J (0.005)	0.0022 J (0.005)
1,2-Dibromoethane	0.00005	NA	NA	NA	ND (0.00002)	NA	NA	NA	NA	ND (0.000029)	ND,XQ (0.000028)	ND (0.000029)
1,2-Dichloroethane	0.005	NA	NA	NA	ND (0.005)	NA	NA	NA	NA	ND (0.005)	ND (0.005)	ND (0.001)
Ethyl Benzene	0.7	0.727 (0.05)	NA	0.821 (0.05)	0.293 (0.005)	0.0349 (0.0025)	0.012 (0.001)	0.149 (0.001)	NA	0.26 (0.005)	0.008 (0.001)	0.05 (0.001)
Methyl tert-butyl ether	0.02	NA	ND (0.02)	NA	0.0266 (0.005)	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)
Toluene	1	3.89 (0.05)	NA	3.95 (0.05)	0.336 (0.005)	0.0455 (0.005)	0.011 (0.001)	0.0919 (0.001)	NA	0.09 (0.001)	0.002 (0.001)	0.0094 (0.001)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	0.59 (0.01)	NA	NA	NA	NA	0.56 (0.025)	0.024 (0.005)	0.16 (0.005)
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	0.221 (0.01)	NA	NA	NA	NA	0.23 (0.025)	0.02 (0.005)	0.092 (0.005)
Xylenes (total)	10	3.91 (0.15)	NA	4.47 (0.05)	1.32 (0.005)	0.163 (0.005)	0.053 (0.001)	0.613 (0.003)	NA	1.7 (0.025)	0.074 (0.003)	0.47 (0.006)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	0.000251 (0.0001)	NA	NA	NA	NA	0.001 (0.0005)	ND (0.0005)	ND (0.00051)
Benzo(a)anthracene	0.0039	NA	NA	NA	ND (0.0001)	NA	NA	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)
Benzo(a)pyrene	0.0002	NA	NA	NA	ND (0.0001)	NA	NA	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)
Benzo(b)fluoranthene	0.0012	NA	NA	NA	ND (0.0001)	NA	NA	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	ND (0.0001)	NA	NA	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)
Chrysene	0.0019	NA	NA	NA	ND (0.0001)	NA	NA	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)
Fluorene	1.9	NA	NA	NA	0.00107 (0.0001)	NA	NA	NA	NA	0.005 (0.0005)	ND (0.0005)	0.00097 (0.00051)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	NA	NA	NA
Naphthalene	0.1	NA	NA	NA	0.0803 (0.0001)	NA	NA	NA	NA	0.091 (0.0005)	ND (0.0005)	ND (0.00051)
Phenanthrene	1.1	NA	NA	NA	0.00174 (0.0001)	NA	NA	NA	NA	0.008 (0.0005)	ND (0.0005)	0.00048 J (0.00051)
Pyrene	0.13	NA	NA	NA	ND (0.0001)	NA	NA	NA	NA	0.0008 (0.0005)	0.0003 J (0.0005)	0.00019 J (0.00051)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	ND (0.003)	ND (0.003)	NA	NA	NA	NA	ND (0.003)	0.00023 J (0.0005)	0.00024 J (0.00052)

Notes:
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XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-708	RW-708	RW-709	RW-709	RW-709	RW-709	RW-709	RW-710	RW-710	RW-710	RW-710
Field Sample ID	Groundwater MSC	RW-708_20220405	RW-708_20230427	RW-709_102110	RW-709-121312	RW-709_040314	RW-709_20150318	AOI4_RW-709_021616	RW-710_102110	RW-710_06_14_2013	RW-710_040314	RW-710_20150318
Sample Date	Used Aquifer	4/5/2022	4/27/2023	10/21/2010	12/13/2012	4/4/2014	3/18/2015	2/16/2016	10/21/2010	6/14/2013	4/4/2014	3/18/2015
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.039 (0.0005)	0.0026 (0.0005)	0.69 (0.01)	0.223 (0.005)	0.0131 (0.0005)	0.001 (0.001)	0.0049 (0.001)	6.2 (0.2)	1.44 (0.01)	0.0046 (0.0005)	ND (0.001)
Cumene	3.5	0.0017 (0.001)	ND (0.001)	NA	NA	NA	NA	NA	NA	0.0236 (0.02)	NA	NA
1,2-Dibromoethane	0.00005	ND (0.00002)	ND (0.000021)	NA	NA	NA	NA	NA	NA	ND (0.00002)	NA	NA
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	NA	NA	NA	NA	NA	NA	ND (0.01)	NA	NA
Ethyl Benzene	0.7	0.0332 (0.001)	ND (0.001)	0.5 (0.01)	0.105 (0.005)	0.0332 (0.0005)	0.004 (0.001)	ND (0.001)	1.4 (0.02)	0.768 (0.01)	0.0098 (0.0005)	ND (0.001)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	ND (0.01)	NA	NA	NA	NA	ND (0.02)	ND (0.01)	NA	NA
Toluene	1	0.0032 (0.001)	ND (0.001)	4.2 (0.1)	0.291 (0.005)	0.147 (0.001)	0.005 (0.001)	0.0043 (0.001)	13 (0.2)	0.908 (0.01)	0.0044 (0.001)	ND (0.001)
1,2,4-Trimethylbenzene	0.53	0.102 (0.002)	0.0023 (0.002)	NA	NA	NA	NA	NA	NA	1.37 (0.02)	NA	NA
1,3,5-Trimethylbenzene	0.53	0.0549 (0.002)	0.003 (0.002)	NA	NA	NA	NA	NA	NA	0.47 (0.02)	NA	NA
Xylenes (total)	10	0.15 (0.001)	0.00085 J (0.001)	5.3 (0.01)	0.83 (0.005)	0.229 (0.001)	0.021 (0.001)	ND (0.003)	9.1 (0.02)	4.58 (0.01)	0.0494 (0.001)	ND (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.000083)	ND (0.000083)	NA	NA	NA	NA	NA	NA	ND (0.0001)	NA	NA
Benzo(a)anthracene	0.0039	0.000037 J (0.000042)	0.0000369 J (0.000042)	NA	NA	NA	NA	NA	NA	ND (0.0001)	NA	NA
Benzo(a)pyrene	0.0002	0.0000282 J (0.000042)	0.0000275 J (0.000042)	NA	NA	NA	NA	NA	NA	ND (0.0001)	NA	NA
Benzo(b)fluoranthene	0.0012	0.0000471 (0.000042)	0.000055 (0.000042)	NA	NA	NA	NA	NA	NA	ND (0.0001)	NA	NA
Benzo(g,h,i)perylene	0.00026	ND (0.000083)	0.0000444 J (0.000083)	NA	NA	NA	NA	NA	NA	ND (0.0001)	NA	NA
Chrysene	0.0019	0.0000555 J (0.000083)	0.000043 J (0.000083)	NA	NA	NA	NA	NA	NA	ND (0.0001)	NA	NA
Fluorene	1.9	0.000328 B (0.000083)	ND (0.000083)	NA	NA	NA	NA	NA	NA	0.000337 (0.0001)	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.00196 B (0.000083)	ND (0.000083)	NA	NA	NA	NA	NA	NA	0.196 (0.004)	NA	NA
Phenanthrene	1.1	0.000386 B (0.000083)	0.0000555 J (0.000083)	NA	NA	NA	NA	NA	NA	0.000476 (0.0001)	NA	NA
Pyrene	0.13	0.000259 (0.000083)	0.0000666 J (0.000083)	NA	NA	NA	NA	NA	NA	ND (0.0001)	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	0.0015 (0.001)	0.0026 (0.001)	NA	ND (0.003)	NA	NA	NA	NA	ND (0.003)	NA	NA

Notes:

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-710	RW-711	RW-711	RW-711	RW-711	RW-711	RW-711	RW-711	RW-712	RW-712	RW-712
Field Sample ID	Groundwater MSC	AOI4_RW-710_021816	RW-711_102110	RW-711_12142012	RW-711_040114	RW-711_20150318	AOI4_RW-711_021816	RW-711-20160816-WG	RW-711-20161012-WG	RW-712_102110	RW-712-121312	RW-712_040114
Sample Date	Used Aquifer	2/18/2016	10/21/2010	12/14/2012	4/1/2014	3/18/2015	2/18/2016	8/16/2016	10/12/2016	10/21/2010	12/13/2012	4/1/2014
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.0294 (0.001)	NA	NA	0.0125 (0.0005)	0.4 (0.01)	0.312 (0.001)	0.378 (0.01)	0.0136 (0.001)	3.5 (0.02)	5.54 (0.1)	0.537 (0.005)
Cumene	3.5	NA	NA	NA	NA	NA	NA	0.00646 (0.001)	0.00244 (0.001)	NA	NA	NA
1,2-Dibromoethane	0.00005	NA	NA	NA	NA	NA	NA	ND (0.00001)	ND (0.00001)	NA	NA	NA
1,2-Dichloroethane	0.005	NA	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	NA	NA	NA
Ethyl Benzene	0.7	0.00067 J (0.001)	NA	NA	0.0328 (0.0005)	0.59 (0.01)	0.293 (0.001)	0.171 (0.001)	0.0367 (0.001)	2.3 (0.02)	1.43 (0.1)	0.462 (0.005)
Methyl tert-butyl ether	0.02	NA	ND (0.02)	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.02)	NA	NA
Toluene	1	0.0172 (0.001)	NA	NA	0.0502 (0.001)	0.055 (0.001)	0.0542 (0.001)	0.0539 (0.005)	0.0104 (0.005)	6.3 (0.2)	4.81 (0.1)	0.78 (0.01)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	NA	0.271 (0.01)	0.0939 (0.001)	NA	NA	NA
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	NA	0.053 (0.001)	0.0226 (0.001)	NA	NA	NA
Xylenes (total)	10	0.0019 J (0.003)	NA	NA	0.175 (0.001)	0.79 (0.01)	0.839 (0.003)	0.634 (0.03)	0.145 (0.003)	9.3 (0.2)	7.68 (0.1)	2.53 (0.01)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA
Benzo(a)anthracene	0.0039	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA
Benzo(a)pyrene	0.0002	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA
Benzo(b)fluoranthene	0.0012	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA
Chrysene	0.0019	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA
Fluorene	1.9	NA	NA	NA	NA	NA	NA	0.000142 (0.00005)	ND (0.00005)	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA
Naphthalene	0.1	NA	NA	NA	NA	NA	NA	0.0542 (0.00025)	0.00514 (0.00025)	NA	NA	NA
Phenanthrene	1.1	NA	NA	NA	NA	NA	NA	0.0000798 (0.00005)	ND (0.00005)	NA	NA	NA
Pyrene	0.13	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	ND (0.003)	NA	NA	NA	ND (0.002)	ND (0.002)	NA	ND (0.003)	NA

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

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J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-712	RW-712	RW-713	RW-713	RW-713	RW-713	RW-713	RW-714	RW-714	RW-714	RW-714
Field Sample ID	Groundwater MSC	RW-712_20150318	AOI4_RW-712_021816	RW-713_102110	RW-713-121312	RW-713_040114	RW-713_20150318	AOI4_RW-713_021816	RW-714_102110	RW-714-121312	RW-714_040114	RW-714_20150318
Sample Date	Used Aquifer	3/18/2015	2/18/2016	10/21/2010	12/13/2012	4/1/2014	3/18/2015	2/18/2016	10/21/2010	12/13/2012	4/1/2014	3/18/2015
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.81 (0.005)	1.45 (0.01)	1.7 (0.02)	2.06 (0.1)	0.755 (0.013)	0.83 (0.005)	1.58 (0.01)	0.42 (0.02)	0.409 (0.1)	0.804 (0.01)	0.18 (0.01)
Cumene	3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	0.7	0.47 (0.005)	0.957 (0.01)	1.4 (0.02)	1.27 (0.1)	0.816 (0.013)	0.8 (0.005)	0.91 (0.01)	1.7 (0.02)	0.424 (0.1)	0.514 (0.01)	0.76 (0.01)
Methyl tert-butyl ether	0.02	NA	NA	ND (0.02)	NA	NA	NA	NA	ND (0.02)	NA	NA	NA
Toluene	1	0.86 (0.005)	1.13 (0.01)	10 (0.2)	4.56 (0.1)	4.2 (0.025)	2.2 (0.05)	1.02 (0.01)	5.6 (0.2)	0.909 (0.1)	1.14 (0.02)	0.52 (0.01)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	10	1.9 (0.05)	3.8 (0.03)	7.8 (0.02)	6.92 (0.1)	5.08 (0.025)	4.7 (0.05)	5.08 (0.03)	7.6 (0.2)	6.03 (0.1)	3.3 (0.02)	4.9 (0.01)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	0.0039	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	0.0012	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	0.0019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	1.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	1.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	0.0019 J (0.003)	NA	NA	NA	NA	ND (0.003)	NA	NA

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

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OE - The associated batch QC was outside the established quality control range for precision/accuracy.
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TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-714	RW-715	RW-715	RW-715	RW-715	RW-715	RW-715	RW-715	RW-716	RW-716	RW-716
Field Sample ID	Groundwater MSC	AOI4_RW-714_021916	RW-715-20160816-WG	RW-715-20161012-WG	RW-715_20180626	RW-715_20190620	RW-715_20191028	RW-715_20210504	RW-715_20220404	RW-716_102110	RW-716-121312	RW-716_040314
Sample Date	Used Aquifer	2/19/2016	8/16/2016	10/12/2016	6/26/2018	6/20/2019	10/28/2019	5/4/2021	4/4/2022	10/21/2010	12/13/2012	4/4/2014
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.759 (0.01)	NA	NA	0.0478 (0.001)	0.0008 J (0.001)	0.0006 J (0.001)	0.006 (0.001)	0.0186 (0.0005)	0.019 (0.001)	0.0124 (0.001)	0.0026 (0.0005)
Cumene	3.5	NA	NA	NA	0.00181 (0.001)	ND (0.005)	ND (0.005)	0.0015 J (0.005)	0.0027 (0.001)	NA	NA	NA
1,2-Dibromoethane	0.00005	NA	NA	NA	ND (0.00001)	ND (0.000028)	ND,XQ (0.000028)	ND (0.000029)	ND (0.00002)	NA	NA	NA
1,2-Dichloroethane	0.005	NA	NA	NA	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	NA	NA	NA
Ethyl Benzene	0.7	0.546 (0.01)	NA	NA	0.00223 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.00098 J (0.001)	0.004 (0.001)	0.0026 (0.001)	0.001 (0.0005)
Methyl tert-butyl ether	0.02	NA	NA	NA	0.00158 (0.001)	0.001 (0.001)	0.0009 J (0.001)	0.00035 J (0.001)	ND (0.001)	ND (0.001)	NA	NA
Toluene	1	0.569 (0.01)	NA	NA	0.00306 (0.001)	0.0003 J (0.001)	ND (0.001)	0.0024 (0.001)	0.0053 (0.001)	0.013 (0.001)	0.0033 (0.001)	0.00096 J (0.001)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	0.00153 (0.001)	ND (0.005)	ND (0.005)	0.0027 J (0.005)	ND (0.002)	NA	NA	NA
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	ND (0.001)	ND (0.005)	ND (0.005)	0.00032 J (0.005)	ND (0.002)	NA	NA	NA
Xylenes (total)	10	3.14 (0.03)	NA	NA	0.00408 (0.003)	0.0006 J (0.005)	ND (0.003)	0.0039 J (0.006)	0.009 (0.001)	0.056 (0.001)	0.0013 (0.001)	ND (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000579 JB (0.000069)	NA	NA	NA
Benzo(a)anthracene	0.0039	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000373 B (0.000034)	NA	NA	NA
Benzo(a)pyrene	0.0002	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000464 (0.000034)	NA	NA	NA
Benzo(b)fluoranthene	0.0012	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000358 B (0.000034)	NA	NA	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000484 J (0.000069)	NA	NA	NA
Chrysene	0.0019	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000358 J (0.000069)	NA	NA	NA
Fluorene	1.9	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000896 B (0.000069)	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	NA	NA	NA	0.00145 (0.00025)	ND (0.0005)	ND (0.0005)	0.00024 J (0.0005)	0.000315 B (0.000069)	NA	NA	NA
Phenanthrene	1.1	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000961 B (0.000069)	NA	NA	NA
Pyrene	0.13	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000465 J (0.000069)	NA	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	ND (0.002)	ND (0.003)	ND (0.0005)	ND (0.00052)	ND (0.001)	NA	ND (0.003)	NA

Notes:
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XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-716	RW-716	RW-717	RW-717	RW-717	RW-717	RW-717	RW-717	RW-717	S-10	S-10
Field Sample ID	Groundwater MSC	RW-716_20150318	AOI4_RW-716_021916	RW-717_102110	RW-717-121312	RW-717_040314	RW-717_20150318	AOI4_RW-717_021916	RW-717-20160817-WG	RW-717-20161012-WG	S-10_112509	S-10_072110
Sample Date	Used Aquifer	3/18/2015	2/19/2016	10/21/2010	12/13/2012	4/4/2014	3/18/2015	2/19/2016	8/17/2016	10/12/2016	11/25/2009	7/21/2010
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.006 (0.001)	0.043 (0.001)	NA	NA	0.0223 (0.0005)	0.036 (0.001)	0.0307 (0.001)	ND (0.001)	0.0012 (0.001)	0.026 (0.001)	ND (0.001)
Cumene	3.5	NA	NA	NA	NA	NA	NA	NA	ND (0.001)	0.00162 (0.001)	ND (0.002)	0.008 (0.002)
1,2-Dibromoethane	0.00005	NA	NA	NA	NA	NA	NA	NA	ND (0.00001)	ND (0.00001)	ND (0.00003)	ND (0.000029)
1,2-Dichloroethane	0.005	NA	NA	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.0007 J (0.001)	0.0164 (0.001)	NA	NA	0.0114 (0.0005)	0.016 (0.001)	0.0132 (0.001)	ND (0.001)	0.00112 (0.001)	ND (0.001)	ND (0.001)
Methyl tert-butyl ether	0.02	NA	NA	ND (0.001)	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	0.005 (0.001)
Toluene	1	0.0006 J (0.001)	0.0398 (0.001)	NA	NA	0.0075 (0.001)	0.013 (0.001)	0.0311 (0.001)	ND (0.005)	ND (0.005)	0.001 (0.001)	ND (0.001)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.002)
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.002)
Xylenes (total)	10	0.0007 J (0.001)	0.0859 (0.003)	NA	NA	0.0042 (0.001)	0.062 (0.001)	0.0663 (0.003)	ND (0.003)	0.00402 (0.003)	0.002 (0.001)	ND (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA
Benzo(a)anthracene	0.0039	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA
Benzo(a)pyrene	0.0002	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA
Benzo(b)fluoranthene	0.0012	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA
Chrysene	0.0019	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	ND (0.005)	ND (0.005)
Fluorene	1.9	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	ND (0.005)	ND (0.005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA
Naphthalene	0.1	NA	NA	NA	NA	NA	NA	NA	ND (0.00025)	0.000783 (0.00025)	ND (0.005)	ND (0.005)
Phenanthrene	1.1	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	ND (0.005)	ND (0.005)
Pyrene	0.13	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	ND (0.005)	ND (0.005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	ND (0.003)	NA	NA	NA	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.000001)

Notes:

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-10	S-10	S-10	S-102	S-102	S-102	S-102	S-103	S-104	S-104	S-11
Field Sample ID	Groundwater MSC	AOI3-S-10_082213	AOI3_S-10_061215	AOI3_S-10_123015	S-102	S102-050605	S-102_06_12_2013	S-102-20161012-WG	S-103-20161012-WG	S-104-20160819-WG	S-104-20161011-WG	S-11_112509
Sample Date	Used Aquifer	8/22/2013	6/12/2015	12/30/2015	10/21/2004	5/6/2005	6/12/2013	10/12/2016	10/12/2016	8/19/2016	10/11/2016	11/25/2009
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	0.00042 J (0.001)	ND (0.0005)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND,SL (0.01)	ND,SL (0.005)	0.0188 SL (0.01)	0.011 (0.001)
Cumene	3.5	0.0056 (0.002)	0.0081 (0.001)	0.0048 (0.001)	0.0069	ND (0.005)	0.00084 J (0.002)	ND (0.001)	0.0235 SL (0.01)	0.0559 SL (0.005)	0.0215 SL (0.01)	ND (0.002)
1,2-Dibromoethane	0.00005	ND (0.00002)	0.00008 (0.00004)	ND (0.000019)	ND (0.00002)	ND (0.000028)	ND (0.00002)	ND (0.00001)	ND,SL (0.00001)	ND,SL (0.00001)	ND,SL (0.00001)	ND (0.000029)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND,SL (0.01)	ND,SL (0.005)	ND,SL (0.01)	ND (0.001)
Ethyl Benzene	0.7	ND (0.001)	0.00034 J (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND,SL (0.01)	ND,SL (0.005)	0.018 SL (0.01)	ND (0.001)
Methyl tert-butyl ether	0.02	0.0039 (0.001)	0.0052 (0.001)	0.0032 (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND,SL (0.01)	ND,SL (0.005)	ND,SL (0.01)	0.003 (0.001)
Toluene	1	ND (0.001)	0.0011 (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	ND,SL (0.05)	ND,SL (0.025)	0.0579 SL (0.05)	ND (0.001)
1,2,4-Trimethylbenzene	0.53	0.00095 J (0.002)	0.001 (0.001)	ND (0.002)	NA	NA	ND (0.002)	ND (0.001)	ND,SL (0.01)	ND,SL (0.005)	0.124 SL (0.01)	ND (0.002)
1,3,5-Trimethylbenzene	0.53	ND (0.002)	0.00037 J (0.001)	ND (0.002)	NA	NA	ND (0.002)	ND (0.001)	ND,SL (0.01)	ND,SL (0.005)	0.0439 SL (0.01)	ND (0.002)
Xylenes (total)	10	ND (0.001)	0.002 J (0.003)	ND (0.001)	ND (0.01)	ND (0.005)	ND (0.001)	ND (0.003)	ND,SL (0.03)	ND,SL (0.015)	0.205 SL (0.03)	ND (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	0.000591 (0.0001)	0.00039 (0.0001)	0.000344 (0.0001)	NA	NA	0.000292 (0.0001)	0.000751 (0.00005)	ND,SL (0.0005)	ND,SL (0.001)	ND,SL (0.001)	NA
Benzo(a)anthracene	0.0039	ND (0.0001)	ND (0.0001)	ND (0.00005)	NA	NA	0.000212 (0.0001)	0.000469 (0.00005)	ND,SL (0.0005)	0.00113 B,SL (0.001)	ND,SL (0.001)	NA
Benzo(a)pyrene	0.0002	ND (0.0001)	ND (0.0001)	ND (0.00005)	NA	NA	ND (0.0001)	0.000163 (0.00005)	ND,SL (0.0005)	ND,SL (0.001)	ND,SL (0.001)	NA
Benzo(b)fluoranthene	0.0012	0.000148 (0.0001)	ND (0.0001)	ND (0.0001)	NA	NA	ND (0.0001)	0.000121 (0.00005)	ND,SL (0.0005)	ND,SL (0.001)	ND,SL (0.001)	NA
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	NA	ND (0.0001)	0.0000903 (0.00005)	ND,SL (0.0005)	ND,SL (0.001)	ND,SL (0.001)	NA
Chrysene	0.0019	0.000148 (0.0001)	ND (0.0001)	ND (0.0001)	0.0015	ND (0.01)	0.000346 (0.0001)	0.000511 (0.00005)	ND,SL (0.0005)	ND,SL (0.001)	ND,SL (0.001)	ND (0.005)
Fluorene	1.9	0.00084 (0.0001)	0.0011 (0.0001)	0.000459 (0.0001)	ND (0.01)	ND (0.01)	0.000832 (0.0001)	0.00134 (0.00005)	0.00518 SL (0.0005)	0.0236 SL (0.001)	0.0132 SL (0.001)	ND (0.005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND,SL (0.0005)	ND,SL (0.001)	ND,SL (0.001)	NA
Naphthalene	0.1	ND (0.0001)	0.0016 (0.0001)	ND (0.0001)	ND (0.005)	ND (0.01)	ND (0.0001)	0.00083 (0.00025)	0.00329 B,SL (0.0025)	ND,SL (0.005)	0.0355 SL (0.005)	ND (0.005)
Phenanthrene	1.1	0.000918 (0.0001)	0.00062 (0.0001)	0.000372 (0.0001)	ND (0.01)	ND (0.01)	0.000634 (0.0001)	0.00341 (0.00005)	0.0101 SL (0.0005)	0.0172 SL (0.001)	0.019 SL (0.001)	ND (0.005)
Pyrene	0.13	0.000404 (0.0001)	0.00011 (0.0001)	ND (0.0001)	ND (0.01)	ND (0.01)	0.000341 (0.0001)	0.00115 (0.00005)	0.00228 SL (0.0005)	0.0145 SL (0.001)	0.00719 SL (0.001)	ND (0.005)
Metals												
Lead	0.005	NA	NA	NA	NA	ND (0.001)	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.003)	ND (0.005)	ND (0.003)	ND (0.005)	NA	ND (0.003)	ND (0.002)	ND,SL (0.002)	ND,SL (0.002)	ND,SL (0.002)	ND (0.001)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:
ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-11	S-11	S-11	S-11	S-118	S-118	S-118	S-118	S-118	S-118	S-119
Field Sample ID	Groundwater MSC	S-11_072110	AOI3_S-11_082313	AOI3_S-11_061215	AOI3_S-11_123015	S118-042205	S-118_091609	S-118_120909	S-118_072312	S-118~JB67921	S-118-20141208	S-119
Sample Date	Used Aquifer	7/21/2010	8/23/2013	6/12/2015	12/30/2015	4/22/2005	9/16/2009	12/9/2009	7/23/2012	5/27/2014	12/8/2014	10/20/2004
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	ND (0.001)	0.00067 J (0.001)	ND (0.0005)	NA	0.084 (0.001)	0.44 (0.01)	0.031 (0.005)	0.0027 (0.0005)	1.09 (0.05)	ND (0.001)
Cumene	3.5	ND (0.002)	0.0012 J (0.002)	0.0042 (0.001)	0.0023 (0.001)	NA	0.013 (0.002)	0.014 (0.002)	0.011 (0.01)	0.0049 (0.001)	0.0064 (0.005)	ND (0.005)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.00002)	0.00008 (0.00004)	ND (0.000019)	NA	ND (0.000029)	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.00002)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)
Ethyl Benzene	0.7	ND (0.001)	ND (0.001)	0.00061 J (0.001)	ND (0.001)	NA	0.074 (0.001)	0.099 (0.001)	0.003 J (0.005)	0.0012 (0.001)	0.0507 (0.005)	ND (0.005)
Methyl tert-butyl ether	0.02	0.002 (0.001)	0.0029 (0.001)	0.0063 (0.001)	0.0028 (0.001)	NA	0.001 (0.001)	0.004 (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)
Toluene	1	ND (0.001)	ND (0.001)	0.0017 (0.001)	ND (0.001)	NA	0.005 (0.001)	0.033 (0.001)	ND (0.005)	ND (0.001)	0.0876 (0.005)	ND (0.005)
1,2,4-Trimethylbenzene	0.53	ND (0.002)	ND (0.002)	0.0012 (0.001)	0.00024 J (0.002)	NA	NA	NA	ND (0.01)	ND (0.002)	0.0116 (0.01)	NA
1,3,5-Trimethylbenzene	0.53	ND (0.002)	ND (0.002)	0.00034 J (0.001)	ND (0.002)	NA	NA	NA	ND (0.01)	ND (0.002)	0.0036 J (0.01)	NA
Xylenes (total)	10	ND (0.001)	0.00038 J (0.001)	0.0043 (0.003)	0.0011 (0.001)	NA	0.029 (0.001)	0.2 (0.001)	ND (0.005)	0.00022 J (0.001)	0.116 (0.005)	ND (0.01)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	0.000165 (0.0001)	0.00018 (0.0001)	0.000199 (0.0001)	NA	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA
Benzo(a)anthracene	0.0039	NA	ND (0.0001)	0.000029 J (0.0001)	0.0000782 (0.00005)	NA	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA
Benzo(a)pyrene	0.0002	NA	ND (0.0001)	0.000017 J (0.0001)	0.000131 (0.00005)	NA	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA
Benzo(b)fluoranthene	0.0012	NA	ND (0.0001)	0.00009 J (0.0001)	0.000332 (0.0001)	NA	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA
Benzo(g,h,i)perylene	0.00026	NA	ND (0.0001)	0.000025 J (0.0001)	0.000122 (0.0001)	NA	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA
Chrysene	0.0019	ND (0.005)	ND (0.0001)	0.000052 J (0.0001)	0.00028 (0.0001)	NA	ND (0.005)	ND (0.005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.00014)
Fluorene	1.9	ND (0.005)	0.000657 (0.0001)	0.0015 (0.0001)	0.000732 (0.0001)	NA	ND (0.005)	ND (0.005)	0.0004 J (0.0005)	ND (0.0001)	0.00016 (0.0001)	ND (0.01)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	ND (0.005)	ND (0.0001)	0.0009 (0.0001)	ND (0.0001)	NA	0.011 (0.005)	0.016 (0.005)	0.0004 J (0.0005)	ND (0.0001)	0.00426 (0.0001)	ND (0.005)
Phenanthrene	1.1	ND (0.005)	ND (0.0001)	0.000093 J (0.0001)	0.000105 (0.0001)	NA	ND (0.005)	ND (0.005)	0.0003 J (0.0005)	ND (0.0001)	0.000126 (0.0001)	ND (0.01)
Pyrene	0.13	ND (0.005)	ND (0.0001)	0.000089 J (0.0001)	0.000309 (0.0001)	NA	ND (0.005)	ND (0.005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.01)
Metals												
Lead	0.005	NA	NA	NA	NA	ND (0.001)	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	0.0012 (0.000001)	0.0029 J (0.003)	ND (0.005)	ND (0.003)	NA	ND (0.000001)	ND (0.000001)	0.00053 J (0.001)	ND (0.003)	0.0017 J (0.003)	ND (0.005)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:
ND - Not Detected
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B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
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J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-119	S-119	S-119	S-119	S-12	S-12	S-12	S-12	S-12	S-120	S-120
Field Sample ID	Groundwater MSC	S119-050305	S-119_06_12_2013	S-119-20160812-WG	S-119-20161010-WG	S-12_113009	S-12_072110	AOI3_S-12_082313	AOI3_S-12_061215	AOI3_S-12_122915	S120-050305	S-120_20150518
Sample Date	Used Aquifer	5/3/2005	6/12/2013	8/12/2016	10/10/2016	11/30/2009	7/21/2010	8/23/2013	6/12/2015	12/29/2015	5/3/2005	5/18/2015
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.005 (0.005)	ND (0.001)	ND (0.001)	0.00283 (0.001)	0.012 (0.001)	ND (0.001)	ND (0.001)	0.00035 J (0.001)	ND (0.0005)	NA	ND (0.001)
Cumene	3.5	ND (0.005)	ND (0.002)	ND (0.001)	ND (0.001)	0.003 (0.002)	0.004 (0.002)	0.0062 (0.002)	0.0068 (0.001)	0.0054 (0.001)	NA	ND (0.002)
1,2-Dibromoethane	0.00005	ND (0.000028)	ND (0.00002)	ND (0.00001)	ND (0.00001)	ND (0.000029)	ND (0.000029)	ND (0.00002)	0.00008 (0.00004)	ND (0.000018)	NA	ND (0.000029)
1,2-Dichloroethane	0.005	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	ND (0.001)
Ethyl Benzene	0.7	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.00039 J (0.001)	ND (0.001)	NA	ND (0.001)
Methyl tert-butyl ether	0.02	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.004 (0.001)	0.004 (0.001)	0.0056 (0.001)	0.0047 (0.001)	0.0054 (0.001)	NA	ND (0.001)
Toluene	1	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.0012 (0.001)	ND (0.001)	NA	ND (0.001)
1,2,4-Trimethylbenzene	0.53	NA	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.002)	0.00085 J (0.001)	ND (0.002)	NA	ND (0.002)
1,3,5-Trimethylbenzene	0.53	NA	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.002)	0.00024 J (0.001)	ND (0.002)	NA	ND (0.002)
Xylenes (total)	10	ND (0.005)	ND (0.001)	ND (0.003)	ND (0.003)	0.001 (0.001)	ND (0.001)	ND (0.001)	0.0021 J (0.003)	ND (0.001)	NA	ND (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	0.000264 (0.0001)	0.00024 (0.0001)	0.000239 (0.0001)	NA	ND (0.0005)
Benzo(a)anthracene	0.0039	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)
Benzo(a)pyrene	0.0002	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)
Benzo(b)fluoranthene	0.0012	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	ND (0.0005)
Benzo(g,h,i)perylene	0.00026	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	ND (0.0005)
Chrysene	0.0019	ND (0.01)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.005)	ND (0.005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	ND (0.0005)
Fluorene	1.9	ND (0.01)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.005)	ND (0.005)	0.000971 (0.0001)	0.0011 (0.0001)	0.000869 (0.0001)	NA	ND (0.0005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	ND (0.01)	ND (0.0001)	ND (0.00025)	ND (0.00025)	ND (0.005)	ND (0.005)	ND (0.0001)	0.0014 (0.0001)	ND (0.0001)	NA	ND (0.0005)
Phenanthrene	1.1	ND (0.01)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.005)	ND (0.005)	0.000306 (0.0001)	0.00057 (0.0001)	0.000228 (0.0001)	NA	ND (0.0005)
Pyrene	0.13	ND (0.01)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.005)	ND (0.005)	ND (0.0001)	0.000069 J (0.0001)	ND (0.0001)	NA	ND (0.0005)
Metals												
Lead	0.005	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.001)	NA
Lead (Dissolved)	0.005	NA	ND (0.003)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.000001)	ND (0.003)	ND (0.005)	ND (0.003)	NA	ND (0.001)

Notes:
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3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-120	S-120	S-120	S-120	S-121	S-121	S-121	S-121	S-122	S-122	S-122
Field Sample ID	Groundwater MSC	S-120-20160518	S-120-20160812-WG	S-120-20161011-WG	S-120-20161011-WG-DUP	S-121	S121-050405	S-121_06_13_2013	S-121-20160815	S122-050305	S-122_20150518	S-122-20160512
Sample Date	Used Aquifer	5/18/2016	8/12/2016	10/11/2016	10/11/2016	10/20/2004	5/4/2005	6/13/2013	8/15/2016	5/3/2005	5/18/2015	5/12/2016
Comments	(TDS ≤ 2500)				Field Duplicate							
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	NA	ND (0.001)	ND (0.001)
Cumene	3.5	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.002)	ND (0.001)	NA	ND (0.002)	ND (0.002)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.00001)	ND (0.00001)	ND (0.00001)	ND (0.00002)	ND (0.000028)	ND (0.00002)	ND (0.00001)	NA	ND (0.000029)	ND (0.000029)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	NA	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	NA	ND (0.001)	ND (0.001)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	NA	ND (0.001)	ND (0.001)
Toluene	1	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	NA	ND (0.001)	ND (0.001)
1,2,4-Trimethylbenzene	0.53	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	ND (0.002)	ND (0.001)	NA	ND (0.002)	ND (0.002)
1,3,5-Trimethylbenzene	0.53	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	ND (0.002)	ND (0.001)	NA	ND (0.002)	ND (0.002)
Xylenes (total)	10	ND (0.001)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.01)	ND (0.005)	ND (0.001)	ND (0.003)	NA	ND (0.001)	ND (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)	ND (0.0005)
Benzo(a)anthracene	0.0039	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)	ND (0.0005)
Benzo(a)pyrene	0.0002	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)	ND (0.0005)
Benzo(b)fluoranthene	0.0012	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)	ND (0.0005)
Benzo(g,h,i)perylene	0.00026	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)	ND (0.0005)
Chrysene	0.0019	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00014)	ND (0.01)	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)	ND (0.0005)
Fluorene	1.9	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.01)	ND (0.01)	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)	ND (0.0005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	NA	ND (0.00005)	NA	NA	NA
Naphthalene	0.1	ND (0.0005)	ND (0.00025)	ND (0.00025)	ND (0.00025)	ND (0.005)	ND (0.01)	ND (0.0001)	ND (0.00025)	NA	0.0002 J (0.0005)	ND (0.0005)
Phenanthrene	1.1	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.01)	ND (0.01)	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)	ND (0.0005)
Pyrene	0.13	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.01)	ND (0.01)	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)	ND (0.0005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	ND (0.001)	NA	NA	ND (0.001)	NA	NA
Lead (Dissolved)	0.005	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.005)	NA	ND (0.003)	ND (0.002)	NA	ND (0.001)	ND (0.001)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
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H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-122	S-122	S-122	S-123	S-123	S-123	S-123	S-124	S-124	S-124	S-124
Field Sample ID	Groundwater MSC	S-122-20160809-WG	S-122-20161013-WG	S-122-20161013-WG-DUP	S-123	S123-050405	S-123-20160818-WG	S-123-20161013-WG	S-124 GROUNDWATER	S-124-20160819-WG	S-124-20160819-WG-DUP	S-124-20161012-WG
Sample Date	Used Aquifer	8/9/2016	10/13/2016	10/13/2016	10/20/2004	5/4/2005	8/18/2016	10/13/2016	4/8/2010	8/19/2016	8/19/2016	10/12/2016
Comments	(TDS ≤ 2500)			Field Duplicate							Field Duplicate	
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	ND (0.001)	ND (0.001)	0.15	0.008 (0.005)	0.00486 (0.001)	0.00614 (0.001)	2.8 SL (0.005)	3.21 (0.05)	3.4 (0.05)	4.23 SL (0.05)
Cumene	3.5	ND (0.001)	ND (0.001)	ND (0.001)	0.019	0.01 (0.005)	ND (0.001)	0.00233 (0.001)	NA	ND (0.05)	ND (0.05)	ND,SL (0.05)
1,2-Dibromoethane	0.00005	ND (0.00001)	ND (0.00001)	ND (0.00001)	ND (0.00002)	ND (0.000028)	ND (0.00001)	ND (0.00001)	NA	ND (0.00001)	ND (0.00001)	ND,SL (0.00001)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0037)	ND (0.005)	ND (0.001)	ND (0.001)	ND,SL (0.01)	ND (0.05)	ND (0.05)	ND,SL (0.05)
Ethyl Benzene	0.7	ND (0.001)	ND (0.001)	ND (0.001)	0.28	0.068 (0.005)	0.0107 (0.001)	0.049 (0.001)	0.33 SL (0.008)	0.876 (0.05)	0.921 (0.05)	0.646 SL (0.05)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0044)	ND (0.005)	ND (0.001)	ND (0.001)	0.009 J,SL (0.005)	ND (0.05)	ND (0.05)	ND,SL (0.05)
Toluene	1	ND (0.005)	ND (0.005)	ND (0.005)	0.26	0.19 (0.005)	0.0208 (0.005)	0.0955 (0.005)	0.37 SL (0.007)	0.297 (0.25)	0.311 (0.25)	ND,SL (0.25)
1,2,4-Trimethylbenzene	0.53	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	0.0125 (0.001)	0.032 (0.001)	NA	0.839 (0.05)	0.93 (0.05)	0.545 SL (0.05)
1,3,5-Trimethylbenzene	0.53	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	0.00222 (0.001)	0.00318 (0.001)	NA	0.264 (0.05)	0.285 (0.05)	0.16 SL (0.05)
Xylenes (total)	10	ND (0.003)	ND (0.003)	ND (0.003)	1.3	0.25 (0.005)	0.0434 (0.003)	0.134 (0.003)	3.8 SL (0.008)	1.82 (0.15)	2.1 (0.15)	1.39 SL (0.15)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	0.00131 (0.00005)	0.00034 (0.00005)	NA	0.00161 (0.00005)	0.00108 (0.00005)	0.00142 SL (0.00005)
Benzo(a)anthracene	0.0039	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.00005)	ND (0.00005)	NA	ND (0.00005)	ND (0.00005)	ND,SL (0.00005)
Benzo(a)pyrene	0.0002	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.00005)	ND (0.00005)	NA	ND (0.00005)	ND (0.00005)	ND,SL (0.00005)
Benzo(b)fluoranthene	0.0012	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.00005)	ND (0.00005)	NA	ND (0.00005)	ND (0.00005)	ND,SL (0.00005)
Benzo(g,h,i)perylene	0.00026	ND,OE (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.00005)	ND (0.00005)	NA	ND (0.00005)	ND (0.00005)	ND,SL (0.00005)
Chrysene	0.0019	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00014)	ND (0.01)	ND (0.00005)	ND (0.00005)	NA	ND (0.00005)	ND (0.00005)	ND,SL (0.00005)
Fluorene	1.9	ND (0.00005)	ND (0.00005)	ND (0.00005)	0.013	0.013 (0.01)	0.00251 (0.00005)	0.00122 (0.00005)	NA	0.00623 (0.00005)	0.00451 (0.00005)	0.00419 SL (0.00005)
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND,OE (0.00005)	ND (0.00005)	NA	ND (0.00005)	ND (0.00005)	ND,SL (0.00005)
Naphthalene	0.1	ND (0.00025)	ND (0.00025)	ND (0.00025)	0.22	0.026 (0.01)	0.00241 (0.00025)	0.00423 (0.00025)	NA	0.347 (0.005)	0.307 (0.005)	0.164 SL (0.005)
Phenanthrene	1.1	ND (0.00005)	ND (0.00005)	ND (0.00005)	0.024	0.034 (0.01)	0.00517 (0.00005)	0.00185 (0.00005)	NA	0.0151 (0.00005)	0.00913 (0.00005)	0.01 SL (0.00005)
Pyrene	0.13	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.01)	ND (0.01)	0.00116 (0.00005)	0.000279 (0.00005)	NA	0.0005 (0.00005)	0.000172 (0.00005)	0.000359 SL (0.00005)
Metals												
Lead	0.005	NA	NA	NA	NA	ND (0.001)	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.005)	NA	ND (0.002)	ND (0.002)	NA	ND (0.002)	ND (0.002)	ND,SL (0.002)

Notes:

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2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
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XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-14	S-14	S-14	S-14	S-14	S-16	S-16	S-16	S-16	S-16	S-17
Field Sample ID	Groundwater MSC	S-14_113009	S-14_072110	AOI3_S-14_082313	AOI3_S-14_061515	AOI3_S-14_122915	S-16_071610	AOI3-S-16_082213	AOI3_S-16_061115	AOI3_S-16_121715	S-16_20230428	S-17_113009
Sample Date	Used Aquifer	11/30/2009	7/21/2010	8/23/2013	6/15/2015	12/29/2015	7/16/2010	8/22/2013	6/11/2015	12/17/2015	4/28/2023	11/30/2009
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.007 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0005)	0.22 (0.005)	0.233 (0.05)	0.221 (0.001)	0.278 (0.0025)	0.24 (0.005)	0.013 (0.001)
Cumene	3.5	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	0.088 (0.01)	0.0883 (0.002)	0.11 (0.001)	0.115 (0.001)	0.148 (0.001)	0.006 (0.002)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000029)	ND (0.00002)	0.000063 (0.00004)	ND (0.000019)	ND (0.000029)	ND (0.00002)	0.00014 (0.00004)	ND (0.00002)	ND (0.000021)	ND (0.00003)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.11 (0.005)	0.082 (0.001)	0.0854 (0.001)	0.0829 (0.001)	0.0906 (0.001)	0.001 (0.001)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.04 (0.005)	0.0312 (0.001)	0.0303 (0.001)	0.0254 (0.001)	0.0169 (0.001)	0.009 (0.001)
Toluene	1	ND (0.001)	ND (0.001)	ND (0.001)	0.001 (0.001)	ND (0.001)	0.044 (0.005)	0.0435 (0.001)	0.0485 (0.001)	0.0534 (0.001)	0.0574 (0.001)	ND (0.001)
1,2,4-Trimethylbenzene	0.53	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.002)	0.4 (0.01)	0.236 (0.1)	0.259 (0.001)	0.328 (0.01)	0.223 (0.02)	ND (0.002)
1,3,5-Trimethylbenzene	0.53	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.002)	0.14 (0.01)	0.105 (0.002)	0.127 (0.001)	0.139 (0.002)	0.147 (0.002)	ND (0.002)
Xylenes (total)	10	0.001 (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.001)	0.38 (0.005)	0.272 (0.001)	0.277 (0.003)	0.308 (0.001)	0.289 (0.001)	0.002 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	0.000385 (0.0001)	0.00077 (0.00012)	0.00185 (0.0001)	0.000622 J (0.0008)	NA
Benzo(a)anthracene	0.0039	NA	NA	ND (0.0001)	0.000025 J (0.0001)	ND (0.00005)	NA	0.000263 (0.0001)	ND (0.00012)	0.000592 (0.00005)	ND (0.0004)	NA
Benzo(a)pyrene	0.0002	NA	NA	ND (0.0001)	0.000019 J (0.0001)	0.000101 (0.00005)	NA	0.000182 (0.0001)	ND (0.00012)	0.000251 (0.00005)	ND (0.0004)	NA
Benzo(b)fluoranthene	0.0012	NA	NA	ND (0.0001)	0.000064 J (0.0001)	0.000157 (0.0001)	NA	0.000168 (0.0001)	ND (0.00012)	ND (0.0001)	ND (0.0004)	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	0.000152 (0.0001)	ND (0.00012)	0.000165 (0.0001)	ND (0.0008)	NA
Chrysene	0.0019	ND (0.005)	ND (0.005)	ND (0.0001)	0.000018 J (0.0001)	ND (0.0001)	ND (0.024)	0.000344 (0.0001)	ND (0.00012)	0.000487 (0.0001)	ND (0.0008)	ND (0.005)
Fluorene	1.9	ND (0.005)	ND (0.005)	ND (0.0001)	0.000017 J (0.0001)	ND (0.0001)	ND (0.024)	0.00245 (0.0001)	0.0031 (0.00012)	0.00369 (0.001)	0.00249 (0.0008)	ND (0.005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	ND (0.005)	ND (0.005)	0.000238 (0.0001)	0.00014 (0.0001)	ND (0.0001)	ND (0.024)	ND (0.0001)	0.005 (0.00012)	ND (0.0001)	0.00382 (0.0008)	ND (0.005)
Phenanthrene	1.1	ND (0.005)	ND (0.005)	ND (0.0001)	0.000026 J (0.0001)	ND (0.0001)	0.029 (0.024)	0.00294 (0.0001)	0.0042 (0.00012)	0.00695 (0.001)	0.00302 (0.0008)	ND (0.005)
Pyrene	0.13	ND (0.005)	ND (0.005)	ND (0.0001)	0.000033 J (0.0001)	ND (0.0001)	ND (0.024)	0.000501 (0.0001)	ND (0.00012)	0.000918 (0.0001)	ND (0.0008)	ND (0.005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.001)	ND (0.000001)	ND (0.003)	ND (0.005)	ND (0.003)	ND (0.000001)	ND (0.003)	ND (0.005)	0.0024 J (0.003)	ND (0.001)	ND (0.001)

Notes:

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-17	S-17	S-17	S-17	S-20	S-20	S-20	S-20	S-20	S-213	S-213
Field Sample ID	Groundwater MSC	S-17_071610	AOI3_S-17_082313	AOI3_S-17_061015	AOI3_S-17_121515	S-20_20190620	S-20_20191029	S-20_20210426	S-20_20220324	S-20_20230427	S-213_072312	S-213
Sample Date	Used Aquifer	7/16/2010	8/23/2013	6/10/2015	12/15/2015	6/20/2019	10/29/2019	4/26/2021	3/24/2022	4/27/2023	7/23/2012	5/29/2014
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	ND (0.001)	0.00063 J (0.001)	ND (0.0005)	0.0004 J (0.001)	0.0005 J (0.001)	0.0022 (0.001)	0.00066 (0.0005)	0.00056 (0.0005)	0.04 (0.005)	0.0163 (0.0005)
Cumene	3.5	0.004 (0.002)	0.0036 (0.002)	0.0061 (0.001)	0.0039 (0.001)	0.016 (0.005)	0.014 (0.005)	0.014 (0.005)	0.0209 (0.001)	0.0181 (0.001)	0.037 (0.01)	0.0604 (0.001)
1,2-Dibromoethane	0.00005	ND (0.00003)	ND (0.00002)	0.000046 (0.00004)	ND (0.000019)	ND (0.000028)	ND,XQ (0.000028)	ND (0.000029)	ND (0.000021)	ND (0.00002)	0.000012 J (0.000029)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
Ethyl Benzene	0.7	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0004 J (0.001)	0.0003 J (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.004 J (0.005)	0.0022 (0.001)
Methyl tert-butyl ether	0.02	0.005 (0.001)	0.002 (0.001)	0.0016 (0.001)	0.0014 (0.001)	0.041 (0.001)	0.044 (0.001)	0.029 (0.001)	0.0304 (0.001)	0.023 (0.001)	0.006 (0.005)	0.0121 (0.001)
Toluene	1	ND (0.001)	0.00027 J (0.001)	0.00027 J (0.001)	ND (0.001)	0.002 (0.001)	0.001 (0.001)	0.0018 (0.001)	0.0018 (0.001)	0.0016 (0.001)	0.013 (0.005)	0.0052 (0.001)
1,2,4-Trimethylbenzene	0.53	ND (0.002)	ND (0.002)	0.00027 J (0.001)	ND (0.002)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)
1,3,5-Trimethylbenzene	0.53	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.002)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)
Xylenes (total)	10	0.002 (0.001)	0.00035 J (0.001)	0.0011 J (0.003)	0.00046 J (0.001)	0.006 (0.005)	0.004 (0.003)	0.0049 J (0.006)	0.0072 (0.001)	0.007 (0.001)	0.007 (0.005)	0.0063 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	ND (0.0001)	0.000078 J (0.0001)	ND (0.0001)	0.0005 (0.0005)	0.0005 J (0.0005)	0.00027 J (0.00061)	0.00027 (0.000074)	0.000444 (0.00008)	0.0008 (0.0005)	0.000285 (0.0001)
Benzo(a)anthracene	0.0039	NA	ND (0.0001)	0.00016 (0.0001)	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.00061)	ND (0.000037)	ND (0.00004)	0.0001 J (0.0005)	ND (0.0001)
Benzo(a)pyrene	0.0002	NA	ND (0.0001)	0.00019 (0.0001)	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.00061)	ND (0.000037)	ND (0.00004)	0.0001 J (0.0005)	ND (0.0001)
Benzo(b)fluoranthene	0.0012	NA	ND (0.0001)	0.00036 (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00061)	ND (0.000037)	ND (0.00004)	0.0002 J (0.0005)	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	NA	ND (0.0001)	0.00015 (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00061)	ND (0.000074)	ND (0.00008)	0.0001 J (0.0005)	ND (0.0001)
Chrysene	0.0019	ND (0.005)	ND (0.0001)	0.00022 (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00061)	ND (0.000074)	ND (0.00008)	0.0002 J (0.0005)	ND (0.0001)
Fluorene	1.9	ND (0.005)	ND (0.0001)	0.000078 J (0.0001)	ND (0.0001)	0.001 (0.0005)	ND (0.0005)	0.00043 J (0.00061)	0.000278 (0.000074)	0.000428 (0.00008)	0.006 (0.0005)	0.00282 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	ND (0.005)	ND (0.0001)	0.00029 (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00061)	ND (0.000074)	0.00259 (0.00008)	0.003 (0.0005)	ND (0.0001)
Phenanthrene	1.1	ND (0.005)	ND (0.0001)	0.00014 (0.0001)	ND (0.0001)	0.001 (0.0005)	0.0007 (0.0005)	0.00039 J (0.00061)	ND (0.000074)	0.000861 (0.00008)	0.005 (0.0005)	0.00247 (0.0001)
Pyrene	0.13	ND (0.005)	ND (0.0001)	0.00028 (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00061)	ND (0.000074)	ND (0.00008)	0.0006 (0.0005)	0.000155 (0.0001)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.000001)	0.0025 J (0.003)	ND (0.005)	ND (0.003)	ND (0.003)	0.00052 (0.0005)	ND (0.00052)	ND (0.001)	ND (0.001)	0.00052 J (0.001)	ND (0.003)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
NA - Not Analyzed
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H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-213	S-214	S-214	S-214	S-214	S-216	S-216	S-216	S-216	S-216	S-218	S-218
Field Sample ID	Groundwater MSC	S-213-20141211	S214-042005	S-214_072312	S-214	S-214-20141211	S216-042805	S-216_06_12_2013	S-216-20160816-WG	S-216-20161012-WG	S218-042805	S-218_06_14_2013
Sample Date	Used Aquifer	12/11/2014	4/20/2005	7/23/2012	5/28/2014	12/11/2014	4/28/2005	6/12/2013	8/16/2016	10/12/2016	4/28/2005	6/14/2013
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.0199 (0.0005)	0.58 (0.025)	0.18 (0.005)	0.0709 (0.0005)	0.169 (0.0005)	0.29 (0.01)	0.0237 (0.001)	0.0182 (0.001)	0.0194 (0.005)	2.2 (0.05)	0.682 (0.005)
Cumene	3.5	0.0868 (0.001)	0.074 (0.005)	0.06 (0.01)	0.0334 (0.001)	0.068 (0.001)	0.073 (0.01)	0.0262 (0.002)	0.0288 (0.001)	0.0223 (0.005)	ND (0.05)	0.0157 (0.01)
1,2-Dibromoethane	0.00005	ND (0.00002)	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.00002)	ND (0.000029)	ND (0.00002)	ND (0.00001)	ND (0.00001)	0.000052 (0.000029)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.05)	ND (0.005)
Ethyl Benzene	0.7	0.0028 (0.001)	0.19 (0.005)	0.012 (0.005)	0.0039 (0.001)	0.0152 (0.001)	0.11 (0.01)	0.00085 J (0.001)	0.00105 (0.001)	ND (0.005)	1.3 (0.05)	0.0415 (0.005)
Methyl tert-butyl ether	0.02	0.005 (0.001)	0.01 (0.005)	ND (0.005)	ND (0.001)	0.00047 J (0.001)	0.21 (0.01)	0.0006 J (0.001)	0.00417 (0.001)	ND (0.005)	ND (0.05)	0.0183 (0.005)
Toluene	1	0.0079 (0.001)	0.069 (0.005)	0.034 (0.005)	0.0148 (0.001)	0.0393 (0.001)	0.048 (0.01)	0.0046 (0.001)	0.00611 (0.005)	ND (0.025)	0.36 (0.05)	0.0242 (0.005)
1,2,4-Trimethylbenzene	0.53	ND (0.002)	NA	ND (0.01)	0.00069 J (0.002)	0.00058 J (0.002)	NA	0.00034 J (0.002)	ND (0.001)	0.0125 (0.005)	NA	0.0891 (0.01)
1,3,5-Trimethylbenzene	0.53	0.00045 J (0.002)	NA	0.006 J (0.01)	0.0032 (0.002)	0.0072 (0.002)	NA	ND (0.002)	ND (0.001)	ND (0.005)	NA	0.117 (0.01)
Xylenes (total)	10	0.0077 (0.001)	0.19 (0.005)	0.023 (0.005)	0.0172 (0.001)	0.0286 (0.001)	0.24 (0.01)	0.0037 (0.001)	0.00522 (0.003)	ND (0.015)	2.4 (0.05)	0.267 (0.005)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.0001)	NA	0.0002 J (0.0005)	ND (0.00011)	ND (0.0001)	NA	0.000246 (0.0001)	ND (0.00005)	ND,J (0.00005)	NA	ND (0.0001)
Benzo(a)anthracene	0.0039	ND (0.0001)	NA	ND (0.0005)	ND (0.00011)	ND (0.0001)	NA	ND (0.0001)	ND (0.00005)	ND,J (0.00005)	NA	ND (0.0001)
Benzo(a)pyrene	0.0002	ND (0.0001)	NA	ND (0.0005)	ND (0.00011)	ND (0.0001)	NA	ND (0.0001)	ND (0.00005)	ND,J (0.00005)	NA	ND (0.0001)
Benzo(b)fluoranthene	0.0012	ND (0.0001)	NA	ND (0.0005)	ND (0.00011)	ND (0.0001)	NA	ND (0.0001)	ND (0.00005)	ND,J (0.00005)	NA	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	NA	ND (0.0005)	ND (0.00011)	ND (0.0001)	NA	ND (0.0001)	ND (0.00005)	ND,J (0.00005)	NA	ND (0.0001)
Chrysene	0.0019	ND (0.0001)	ND (0.01)	ND (0.0005)	ND (0.00011)	ND (0.0001)	ND (0.01)	ND (0.0001)	ND (0.00005)	ND,J (0.00005)	ND (0.01)	ND (0.0001)
Fluorene	1.9	0.00202 (0.0001)	ND (0.01)	0.003 (0.0005)	0.00222 (0.00011)	0.00226 (0.0001)	0.06 (0.01)	0.00347 (0.0001)	0.00296 (0.00005)	0.00268 J- (0.00005)	ND (0.01)	0.000424 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND,J (0.00005)	NA	NA
Naphthalene	0.1	ND (0.0001)	0.03 (0.01)	0.001 (0.0005)	ND (0.00011)	ND (0.0001)	0.15 (0.05)	ND (0.0001)	0.00136 (0.00025)	0.00648 J- (0.00025)	0.25 (0.051)	0.0827 (0.001)
Phenanthrene	1.1	0.00127 (0.0001)	ND (0.01)	0.002 (0.0005)	0.00136 (0.00011)	0.00121 (0.0001)	0.087 (0.01)	0.00271 (0.0001)	0.00361 (0.00005)	0.00353 J- (0.00005)	ND (0.01)	0.000386 (0.0001)
Pyrene	0.13	ND (0.0001)	ND (0.01)	ND (0.0005)	ND (0.00011)	ND (0.0001)	ND (0.01)	ND (0.0001)	0.00017 (0.00005)	0.000122 J- (0.00005)	ND (0.01)	ND (0.0001)
Metals												
Lead	0.005	NA	ND (0.001)	NA	NA	NA	ND (0.001)	NA	NA	NA	ND (0.001)	NA
Lead (Dissolved)	0.005	0.0013 J (0.003)	NA	0.00096 J (0.001)	0.0018 J (0.003)	ND (0.003)	NA	ND (0.003)	ND (0.002)	ND (0.002)	NA	ND (0.003)

Notes:

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2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
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J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-218	S-218	S-218	S-219	S-219	S-219	S-219	S-219	S-219	S-220	S-220
Field Sample ID	Groundwater MSC	S-218-20160817-WG	S-218-20160817-WG-DUP	S-218-20161012-WG	S219-042805	S-219_06_12_2013	S-219-20160815	S-219-20161011-WG	S-219-230106	S-219-230209	S-220-20160818-WG	S-220-20161012-WG
Sample Date	Used Aquifer	8/17/2016	8/17/2016	10/12/2016	4/28/2005	6/12/2013	8/15/2016	10/11/2016	1/6/2023	2/9/2023	8/18/2016	10/12/2016
Comments	(TDS ≤ 2500)		Field Duplicate									
Volatile Organic Compounds												
Benzene	0.005	0.638 (0.01)	0.636 (0.005)	0.498 (0.01)	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0005)	ND (0.0005)	ND,SL (0.01)	0.174 SL (0.1)
Cumene	3.5	0.0221 (0.01)	0.0216 (0.005)	0.0138 (0.01)	NA	ND (0.002)	ND (0.001)	ND (0.001)	0.00028 J (0.0005)	ND (0.0005)	0.07 SL (0.01)	ND,SL (0.1)
1,2-Dibromoethane	0.00005	ND (0.00001)	ND (0.00001)	ND (0.00001)	NA	ND (0.00002)	ND (0.00001)	ND (0.00001)	ND (0.00001)	ND (0.00001)	ND,SL (0.00001)	ND,SL (0.00001)
1,2-Dichloroethane	0.005	ND (0.01)	ND (0.005)	ND (0.01)	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0005)	ND (0.0005)	ND,SL (0.01)	ND,SL (0.1)
Ethyl Benzene	0.7	0.103 (0.01)	0.0958 (0.005)	0.0487 (0.01)	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0005)	ND (0.0005)	0.244 SL (0.01)	0.342 SL (0.1)
Methyl tert-butyl ether	0.02	ND (0.01)	ND (0.005)	ND (0.01)	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.01)	ND,SL (0.1)
Toluene	1	0.0623 (0.05)	0.0612 (0.025)	ND (0.05)	NA	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.00075)	0.00034 J (0.00075)	ND,SL (0.05)	ND,SL (0.5)
1,2,4-Trimethylbenzene	0.53	0.119 (0.01)	0.112 (0.005)	0.0286 (0.01)	NA	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.0025)	ND (0.0025)	0.902 SL (0.01)	0.173 SL (0.1)
1,3,5-Trimethylbenzene	0.53	0.106 (0.01)	0.0986 (0.005)	0.0546 (0.01)	NA	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.0025)	ND (0.0025)	0.498 SL (0.01)	0.122 SL (0.1)
Xylenes (total)	10	0.307 (0.03)	0.286 (0.015)	0.132 (0.03)	NA	ND (0.001)	ND (0.003)	ND (0.003)	ND (0.001)	ND (0.001)	0.542 SL (0.03)	0.314 SL (0.3)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)	ND,SL (0.00005)	0.00443 J+,SL (0.0000625)
Benzo(a)anthracene	0.0039	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	0.00018 (0.00005)	ND (0.00005)	0.00039 SL (0.00005)	0.000221 J+,SL (0.0000625)
Benzo(a)pyrene	0.0002	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)	0.000206 SL (0.00005)	0.0000754 J+,SL (0.0000625)
Benzo(b)fluoranthene	0.0012	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	0.000146 SL (0.00005)	0.000107 J+,SL (0.0000625)
Benzo(g,h,i)perylene	0.00026	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)	ND,SL (0.00005)	0.000101 J+,SL (0.0000625)
Chrysene	0.0019	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)	0.000444 SL (0.00005)	0.000228 J+,SL (0.0000625)
Fluorene	1.9	0.000814 (0.00005)	0.00071 (0.00005)	0.000917 (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)	0.0354 SL (0.001)	0.0149 J+,SL (0.0000625)
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)	0.0000588 OE,SL (0.00005)	ND,SL (0.0000625)
Naphthalene	0.1	0.0854 (0.00025)	0.0495 (0.00025)	0.0206 (0.00025)	NA	ND (0.0001)	ND (0.00025)	ND (0.00025)	ND (0.0001)	ND (0.0001)	0.349 SL (0.005)	0.338 SL (0.00625)
Phenanthrene	1.1	0.000723 (0.00005)	0.00063 (0.00005)	0.000817 (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	0.0702 SL (0.00005)	0.0364 J+,SL (0.0000625)
Pyrene	0.13	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)	0.00396 SL (0.00005)	0.00188 J+,SL (0.0000625)
Metals												
Lead	0.005	NA	NA	NA	ND (0.001)	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.002)	ND (0.002)	ND (0.002)	NA	ND (0.003)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND,SL (0.002)	ND,SL (0.002)

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-222	S-222	S-222	S-222	S-222	S-222	S-222	S-223	S-223	S-223	S-223
Field Sample ID	Groundwater MSC	S-222-080105	S-222_11_8_2005	S-222_20150518	S-222-20160518	S-222-20160817-WG	S-222-20161013-WG	S-222-20170517	S-223-080105	S-223-20160817-WG	S-223-20161013-WG	S-223_20190628
Sample Date	Used Aquifer	8/1/2005	11/8/2005	5/18/2015	5/18/2016	8/17/2016	10/13/2016	5/17/2017	8/1/2005	8/17/2016	10/13/2016	6/28/2019
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.003 (0.001)	NA	NA	NA	NA
Cumene	3.5	NA	NA	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.002)	NA	NA	NA	NA
1,2-Dibromoethane	0.00005	NA	NA	ND (0.000029)	ND (0.000029)	ND (0.00001)	ND (0.00001)	ND (0.000029)	NA	NA	NA	NA
1,2-Dichloroethane	0.005	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	NA
Ethyl Benzene	0.7	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	0.00116 (0.001)	0.002 (0.001)	NA	NA	NA	NA
Methyl tert-butyl ether	0.02	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	NA
Toluene	1	NA	NA	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	0.002 (0.001)	NA	NA	NA	NA
1,2,4-Trimethylbenzene	0.53	NA	NA	ND (0.002)	ND (0.002)	ND (0.001)	0.00242 (0.001)	0.002 J (0.002)	NA	NA	NA	NA
1,3,5-Trimethylbenzene	0.53	NA	NA	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	0.0006 J (0.002)	NA	NA	NA	NA
Xylenes (total)	10	NA	NA	ND (0.001)	ND (0.001)	ND (0.003)	0.00473 (0.003)	0.008 (0.001)	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00005)	0.00015 (0.00005)	ND (0.0005)	NA	NA	NA	NA
Benzo(a)anthracene	0.0039	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA	NA	NA
Benzo(a)pyrene	0.0002	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA	NA	NA
Benzo(b)fluoranthene	0.0012	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA	NA	NA
Chrysene	0.0019	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA	NA	NA
Fluorene	1.9	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00005)	0.000482 (0.00005)	ND (0.0005)	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	ND (0.0001)	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.00005)	ND (0.00005)	NA
Naphthalene	0.1	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00025)	0.000704 (0.00025)	0.0003 J (0.0005)	NA	NA	NA	NA
Phenanthrene	1.1	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00005)	0.000468 (0.00005)	ND (0.0005)	NA	NA	NA	NA
Pyrene	0.13	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00005)	0.0000905 (0.00005)	ND (0.0005)	NA	NA	NA	NA
Metals												
Lead	0.005	ND (0.001)	ND (0.01)	NA	NA	NA	NA	NA	ND (0.001)	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.001)	NA	NA	NA	ND (0.003)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
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J+ - Indicates an estimated value that is biased high
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-223	S-223	S-223	S-223	S-223	S-223	S-223	S-223	S-223	S-224	S-224
Field Sample ID	Groundwater MSC	S-223_20191023	S-223_20200901	S-223_20210504	S-223_20220405	S-223_20230425	S-223_20230531	S-223_20230912	S-223_20231019	S-223_20231215	S-224-080105	S-224_12142012
Sample Date	Used Aquifer	10/23/2019	9/1/2020	5/4/2021	4/5/2022	4/25/2023	5/31/2023	9/12/2023	10/19/2023	12/15/2023	8/1/2005	12/14/2012
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	NA	NA	NA	12.5 (0.05)	1.22 (0.005)	1.39 (0.005)	2.14 (0.05)	2.29 (0.01)	NA	NA
Cumene	3.5	NA	NA	NA	NA	ND (0.1)	0.0112 (0.01)	0.0095 J (0.01)	0.013 (0.01)	0.0123 (0.01)	0.044 (0.01)	NA
1,2-Dibromoethane	0.00005	NA	NA	NA	NA	ND (0.00002)	ND (0.00002)	ND (0.000023)	ND (0.000021)	ND (0.000021)	ND (0.000029)	NA
1,2-Dichloroethane	0.005	NA	NA	NA	NA	ND (0.1)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	NA
Ethyl Benzene	0.7	NA	NA	NA	NA	1.34 (0.1)	0.285 (0.01)	0.184 (0.01)	0.221 (0.01)	0.22 (0.01)	NA	NA
Methyl tert-butyl ether	0.02	NA	NA	NA	NA	ND (0.1)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	NA
Toluene	1	NA	NA	NA	NA	0.221 (0.1)	0.163 (0.01)	0.167 (0.01)	0.184 (0.01)	0.227 (0.01)	NA	NA
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	NA	1.26 (0.2)	0.221 (0.02)	0.104 (0.02)	0.125 (0.02)	0.168 (0.02)	NA	NA
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	NA	0.382 (0.2)	0.102 (0.02)	0.0614 (0.02)	0.0778 (0.02)	0.0931 (0.02)	NA	NA
Xylenes (total)	10	NA	NA	NA	NA	7.28 (0.1)	0.455 (0.01)	0.305 (0.01)	0.324 (0.01)	0.413 (0.01)	NA	NA
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	NA	0.000394 (0.000077)	0.000061 J (0.000082)	ND (0.00008)	0.00006 J (0.000074)	ND (0.000074)	NA	NA
Benzo(a)anthracene	0.0039	NA	NA	NA	NA	0.0000252 J (0.000038)	ND (0.000041)	ND (0.00004)	ND (0.000037)	ND (0.000037)	NA	NA
Benzo(a)pyrene	0.0002	NA	NA	NA	NA	ND (0.000038)	ND (0.000041)	ND (0.00004)	ND (0.000037)	ND (0.000037)	NA	NA
Benzo(b)fluoranthene	0.0012	NA	NA	NA	NA	0.0000236 J (0.000038)	ND (0.000041)	ND (0.00004)	ND (0.000037)	ND (0.000037)	NA	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	NA	ND (0.000077)	ND (0.000082)	ND (0.00008)	ND (0.000074)	ND (0.000074)	NA	NA
Chrysene	0.0019	NA	NA	NA	NA	ND (0.000077)	ND (0.000082)	ND (0.00008)	ND (0.000074)	ND (0.000074)	ND (0.005)	NA
Fluorene	1.9	NA	NA	NA	NA	0.00113 (0.000077)	0.00035 (0.000082)	0.000365 (0.00008)	0.000471 (0.000074)	0.000423 B (0.000074)	ND (0.005)	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	NA	NA	NA	NA	0.128 (0.0038)	0.0332 B (0.00082)	0.0055 (0.0004)	0.0329 (0.0008)	0.0236 (0.0015)	0.1 (0.005)	NA
Phenanthrene	1.1	NA	NA	NA	NA	0.00298 (0.000077)	0.000252 B (0.000082)	ND (0.00008)	0.000274 (0.000074)	0.0000551 JB (0.000074)	ND (0.005)	NA
Pyrene	0.13	NA	NA	NA	NA	0.000148 (0.000077)	ND (0.000082)	ND (0.00008)	ND (0.000074)	ND (0.000074)	ND (0.005)	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0014 (0.001)	NA
Lead (Dissolved)	0.005	0.0001 J (0.0005)	ND (0.00052)	0.000074 J (0.00052)	ND (0.001)	NA	NA	NA	NA	NA	NA	ND (0.003)

Notes:
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XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-224	S-224	S-224	S-224	S-224	S-224	S-224	S-225	S-225	S-225	S-225
Field Sample ID	Groundwater MSC	S-224-20160816-WG	S-224-20161011-WG	S-224_20180125	S-224-20180402	S-224_20181128	S-224-20190118-WG	S-224_20190423	S225-042805	S-225_06_12_2013	S-225-20160815	S-225-20161011-WG
Sample Date	Used Aquifer	8/16/2016	10/11/2016	1/25/2018	4/2/2018	11/28/2018	1/18/2019	4/23/2019	4/28/2005	6/12/2013	8/15/2016	10/11/2016
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	NA	0.16 (0.005)	0.37 (0.01)	0.24 (0.05)	0.107 (0.001)	0.088 (0.005)	0.024 (0.005)	0.0044 (0.001)	ND (0.01)	0.0058 (0.001)
Cumene	3.5	0.0179 (0.001)	0.0136 (0.001)	NA	NA	NA	0.00825 (0.001)	NA	0.087 (0.005)	0.05 (0.002)	0.0682 (0.01)	0.0487 (0.001)
1,2-Dibromoethane	0.00005	ND (0.00001)	ND (0.00001)	NA	NA	NA	ND (0.00001)	NA	ND (0.000029)	ND (0.00002)	ND (0.00001)	ND (0.00001)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	NA	NA	NA	ND (0.001)	NA	ND (0.005)	ND (0.001)	ND (0.01)	ND (0.001)
Ethyl Benzene	0.7	NA	NA	0.17 (0.005)	0.41 (0.01)	0.17 (0.001)	0.104 (0.001)	0.007 (0.005)	ND (0.005)	0.0009 J (0.001)	ND (0.01)	ND (0.001)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	NA	NA	NA	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.01)	ND (0.001)
Toluene	1	NA	NA	0.043 (0.005)	0.11 (0.01)	0.049 (0.001)	0.0515 (0.001)	0.016 (0.005)	0.01 (0.005)	0.0029 (0.001)	ND (0.05)	ND (0.005)
1,2,4-Trimethylbenzene	0.53	0.136 (0.001)	0.101 (0.001)	NA	NA	NA	0.131 (0.001)	NA	NA	0.00038 J (0.002)	ND (0.01)	ND (0.001)
1,3,5-Trimethylbenzene	0.53	0.0289 (0.001)	0.026 (0.001)	NA	NA	NA	0.0373 (0.001)	NA	NA	ND (0.002)	ND (0.01)	ND (0.001)
Xylenes (total)	10	NA	NA	0.26 (0.005)	0.33 (0.01)	0.22 (0.005)	0.317 (0.003)	0.12 (0.025)	0.011 (0.005)	0.0027 (0.001)	ND (0.03)	ND (0.003)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00005)	0.0000746 (0.00005)	NA	NA	NA	NA	NA	NA	0.000436 (0.0001)	0.000279 (0.00005)	0.000217 (0.00005)
Benzo(a)anthracene	0.0039	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	0.000153 (0.0001)	0.0000828 (0.00005)	ND (0.00005)
Benzo(a)pyrene	0.0002	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)
Benzo(b)fluoranthene	0.0012	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)
Benzo(g,h,i)perylene	0.00026	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)
Chrysene	0.0019	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	ND (0.01)	0.000208 (0.0001)	0.0000713 (0.00005)	ND (0.00005)
Fluorene	1.9	0.000986 (0.00005)	0.000502 (0.00005)	NA	NA	NA	NA	NA	0.056 (0.01)	0.00274 (0.0001)	0.00249 (0.00005)	0.00208 (0.00005)
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)
Naphthalene	0.1	0.0412 (0.00025)	0.0172 (0.00025)	NA	NA	NA	NA	NA	ND (0.01)	ND (0.0001)	ND (0.00025)	0.000999 (0.00025)
Phenanthrene	1.1	0.000942 (0.00005)	0.000497 (0.00005)	NA	NA	NA	NA	NA	0.071 (0.01)	0.00202 (0.0001)	0.000591 (0.00005)	0.00161 (0.00005)
Pyrene	0.13	ND (0.00005)	0.0000599 (0.00005)	NA	NA	NA	NA	NA	ND (0.01)	0.000407 (0.0001)	0.000323 (0.00005)	0.000102 (0.00005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	ND (0.001)	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.002)	ND (0.002)	NA	NA	NA	NA	NA	NA	ND (0.003)	ND (0.002)	ND (0.002)

Notes:
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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-227	S-227	S-227	S-227	S-227	S-227	S-228	S-228	S-228	S-228	S-228
Field Sample ID	Groundwater MSC	S227-042005	S227_091405	S-227_091407	S-227_072012	S-227	S-227-20141215	S228_091405	S-228_091407	S-228_072012	S-228	S-228-20141212
Sample Date	Used Aquifer	4/20/2005	9/14/2005	9/14/2007	7/20/2012	5/28/2014	12/15/2014	9/14/2005	9/14/2007	7/20/2012	5/28/2014	12/12/2014
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	0.9 (0.1)	0.68 (0.005)	0.28 (0.005)	0.101 (0.0005)	0.0538 (0.0005)	0.77 (0.13)	0.24 (0.004)	0.14 (0.005)	0.0948 (0.0005)	0.0566 (0.0005)
Cumene	3.5	0.21 (0.02)	0.062 (0.01)	NA	0.077 (0.01)	0.0921 (0.001)	0.0705 (0.001)	0.044 (0.013)	NA	0.035 (0.01)	0.0506 (0.001)	0.0245 (0.001)
1,2-Dibromoethane	0.00005	ND (0.000029)	NA	NA	ND (0.000029)	ND (0.00002)	ND (0.00002)	NA	NA	ND (0.000029)	ND (0.00002)	0.00003 (0.00002)
1,2-Dichloroethane	0.005	ND (0.02)	NA	NA	ND (0.005)	ND (0.001)	ND (0.001)	NA	NA	ND (0.005)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	NA	0.79 (0.1)	0.58 (0.005)	0.24 (0.005)	0.181 (0.001)	0.0286 (0.001)	0.28 (0.013)	0.39 (0.004)	0.055 (0.005)	0.078 (0.001)	0.0344 (0.001)
Methyl tert-butyl ether	0.02	NA	0.036 (0.01)	0.01 (0.005)	0.004 J (0.005)	0.0032 (0.001)	0.003 (0.001)	0.1 (0.013)	0.015 (0.004)	0.005 J (0.005)	0.0046 (0.001)	0.0047 (0.001)
Toluene	1	NA	0.12 (0.01)	0.068 (0.005)	0.039 (0.005)	0.0207 (0.001)	0.0095 (0.001)	0.05 (0.013)	0.028 (0.004)	0.021 (0.005)	0.0188 (0.001)	0.0117 (0.001)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	0.069 (0.01)	0.112 (0.002)	0.0034 (0.002)	NA	NA	0.015 (0.01)	0.0268 (0.002)	0.0091 (0.002)
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	0.031 (0.01)	0.0346 (0.002)	0.0031 (0.002)	NA	NA	0.01 J (0.01)	0.0151 (0.002)	0.008 (0.002)
Xylenes (total)	10	NA	2.2 (0.1)	1.1 (0.005)	0.31 (0.005)	0.292 (0.001)	0.0178 (0.001)	0.94 (0.013)	0.94 (0.004)	0.062 (0.005)	0.0783 (0.001)	0.0401 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	0.0005 J (0.0005)	0.000371 (0.00011)	0.00044 J- (0.0001)	NA	NA	0.0002 J (0.0005)	0.000168 (0.00011)	0.000146 (0.0001)
Benzo(a)anthracene	0.0039	NA	NA	NA	ND (0.0005)	ND (0.00011)	NA	NA	NA	ND (0.0005)	ND (0.00011)	ND (0.0001)
Benzo(a)pyrene	0.0002	NA	NA	NA	ND (0.0005)	ND (0.00011)	NA	NA	NA	ND (0.0005)	ND (0.00011)	ND (0.0001)
Benzo(b)fluoranthene	0.0012	NA	NA	NA	ND (0.0005)	ND (0.00011)	NA	NA	NA	ND (0.0005)	ND (0.00011)	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	ND (0.0005)	ND (0.00011)	NA	NA	NA	ND (0.0005)	ND (0.00011)	ND (0.0001)
Chrysene	0.0019	ND (0.01)	NA	NA	ND (0.0005)	ND (0.00011)	NA	NA	NA	ND (0.0005)	ND (0.00011)	ND (0.0001)
Fluorene	1.9	ND (0.01)	0.01 (0.005)	NA	0.005 (0.0005)	0.00364 (0.00011)	0.00492 J- (0.0001)	0.025 (0.006)	NA	0.002 (0.0005)	0.00164 (0.00011)	0.00228 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.1 (0.01)	0.11 (0.01)	NA	0.039 (0.0005)	0.0217 (0.0011)	0.00424 J- (0.0001)	0.073 (0.013)	NA	0.015 (0.0005)	0.00797 (0.0011)	0.00874 (0.001)
Phenanthrene	1.1	0.018 (0.01)	0.011 (0.005)	NA	0.005 (0.0005)	0.00343 (0.00011)	0.00427 J- (0.0001)	0.052 (0.006)	NA	0.002 (0.0005)	0.00126 (0.00011)	0.00179 (0.0001)
Pyrene	0.13	ND (0.01)	NA	NA	0.0002 J (0.0005)	0.000187 (0.00011)	0.000208 J- (0.0001)	NA	NA	0.0002 J (0.0005)	ND (0.00011)	ND (0.0001)
Metals												
Lead	0.005	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	0.00042 J (0.001)	ND (0.003)	ND (0.003)	NA	NA	0.000077 J (0.001)	0.0017 J (0.003)	ND (0.003)

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-229	S-23	S-23	S-23	S-23	S-23	S-233	S-233	S-233	S-234	S-234
Field Sample ID	Groundwater MSC	S229-042805	S-23_120109	S-23_070710	AOI3-S-23_082213	AOI3_S-23_061115	AOI3_S-23_121615	S-233 GROUNDWATER	S233-GW-221012	S233-GW-221116	S-234_06_17_2013	S-234-20160817-WG
Sample Date	Used Aquifer	4/28/2005	12/1/2009	7/7/2010	8/22/2013	6/11/2015	12/16/2015	4/8/2010	10/12/2022	11/16/2022	6/17/2013	8/17/2016
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	1.9 (0.05)	ND (0.001)	ND (0.001)	ND (0.001)	0.00092 J (0.001)	ND (0.0005)	3.6 SL (0.025)	9.7 (0.05)	8 (0.025)	0.00029 J (0.001)	0.00174 (0.001)
Cumene	3.5	0.15 (0.05)	ND (0.002)	0.002 (0.002)	ND (0.002)	0.00059 J (0.001)	ND (0.001)	NA	ND (0.05)	0.015 J (0.025)	ND (0.002)	0.00123 (0.001)
1,2-Dibromoethane	0.00005	0.000033 (0.000029)	ND (0.00003)	ND (0.000029)	ND (0.00002)	0.000091 (0.00004)	ND (0.000019)	NA	ND (0.00001)	ND (0.00001)	ND (0.00002)	ND (0.00001)
1,2-Dichloroethane	0.005	ND (0.05)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.005)	ND (0.05)	ND (0.025)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.35 (0.05)	ND (0.001)	0.024 (0.001)	ND (0.001)	0.001 (0.001)	ND (0.001)	3.2 SL (0.04)	1.4 (0.05)	1 (0.025)	0.0035 (0.001)	0.0189 (0.001)
Methyl tert-butyl ether	0.02	ND (0.05)	0.12 (0.001)	ND (0.001)	0.0401 (0.001)	0.0498 (0.001)	0.0308 (0.001)	ND,SL (0.003)	ND (0.1)	ND (0.05)	ND (0.001)	ND (0.001)
Toluene	1	ND (0.05)	ND (0.001)	0.006 (0.001)	0.0003 J (0.001)	0.0024 (0.001)	ND (0.001)	4.3 SL (0.035)	0.46 (0.075)	0.6 (0.038)	0.00046 J (0.001)	0.00691 (0.005)
1,2,4-Trimethylbenzene	0.53	NA	ND (0.002)	0.051 (0.002)	ND (0.002)	0.0029 (0.001)	ND (0.002)	NA	1.5 (0.25)	1.3 (0.12)	0.0108 (0.002)	0.0462 (0.001)
1,3,5-Trimethylbenzene	0.53	NA	ND (0.002)	0.015 (0.002)	ND (0.002)	0.0011 (0.001)	ND (0.002)	NA	0.44 (0.25)	0.41 (0.12)	0.0061 (0.002)	0.0122 (0.001)
Xylenes (total)	10	0.63 (0.05)	ND (0.001)	0.057 (0.001)	ND (0.001)	0.0057 (0.003)	ND (0.001)	20 SL (0.04)	11.4 J (0.1)	9.1 J (0.05)	0.013 (0.001)	0.0792 (0.003)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	ND (0.0001)	0.00018 (0.0001)	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	0.00016 (0.00005)
Benzo(a)anthracene	0.0039	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	NA	0.00003 J (0.00005)	0.00004 J (0.00005)	ND (0.0001)	ND (0.00005)
Benzo(a)pyrene	0.0002	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.00005)
Benzo(b)fluoranthene	0.0012	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	0.00001 J (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.00005)
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.00005)
Chrysene	0.0019	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	0.00002 J (0.0001)	0.00003 J (0.0001)	ND (0.0001)	ND (0.00005)
Fluorene	1.9	0.011 (0.01)	ND (0.005)	ND (0.005)	ND (0.0001)	0.000048 J (0.0001)	ND (0.0001)	NA	0.0064 (0.0001)	0.0095 (0.0001)	ND (0.0001)	0.000525 (0.00005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)
Naphthalene	0.1	0.22 (0.051)	ND (0.005)	ND (0.005)	ND (0.0001)	0.00028 (0.0001)	ND (0.0001)	NA	0.16 (0.0005)	0.12 (0.0005)	0.000889 (0.0001)	0.00425 (0.00025)
Phenanthrene	1.1	0.015 (0.01)	ND (0.005)	ND (0.005)	ND (0.0001)	0.000069 J (0.0001)	ND (0.0001)	NA	0.011 (0.00005)	0.017 (0.00005)	0.000377 (0.0001)	0.000966 (0.00005)
Pyrene	0.13	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	0.00034 (0.0001)	0.00084 (0.0001)	0.000204 (0.0001)	0.000193 (0.00005)
Metals												
Lead	0.005	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	ND (0.001)	ND (0.000001)	ND (0.003)	ND (0.005)	ND (0.003)	NA	ND (0.001)	0.0003836 J (0.001)	ND (0.003)	ND (0.002)

Notes:
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-234	S-235	S-235	S-235	S-235	S-235	S-235	S-235	S-237	S-237	S-237
Field Sample ID	Groundwater MSC	S-234-20161011-WG	S-235-20160818-WG	S-235-20161012-WG	S-235_20230208SL	S-235_20230301SL	S-235_20230321SL	S-235_20230426SL	S-235_20230531_SL	S-237_20230208SL	S-237_20230301SL	S-237_20230321SL
Sample Date	Used Aquifer	10/11/2016	8/18/2016	10/12/2016	2/8/2023	3/1/2023	3/21/2023	4/26/2023	5/31/2023	2/8/2023	3/1/2023	3/21/2023
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.00985 (0.005)	NA	NA	8.61 SL (0.1)	9.55 SL (0.1)	11 SL (0.05)	0.436 SL (0.0013)	12.8 SL (0.05)	9 SL (0.1)	7.69 SL (0.05)	8.29 SL (0.05)
Cumene	3.5	ND (0.005)	NA	NA	0.0236 SL (0.02)	ND,SL (0.05)	0.0299 SL (0.025)	0.0052 SL (0.0025)	ND,SL (0.1)	0.0374 SL (0.025)	0.0391 SL (0.025)	0.0258 SL (0.025)
1,2-Dibromoethane	0.00005	ND (0.00001)	NA	NA	ND,SL (0.00002)	ND,SL (0.000021)	ND,SL (0.00002)	ND,SL (0.000021)	ND,SL (0.000021)	ND,SL (0.00002)	ND,SL (0.000021)	ND,SL (0.00002)
1,2-Dichloroethane	0.005	ND (0.005)	NA	NA	ND,SL (0.02)	ND,SL (0.05)	ND,SL (0.025)	ND,SL (0.0025)	ND,SL (0.1)	ND,SL (0.025)	ND,SL (0.025)	ND,SL (0.025)
Ethyl Benzene	0.7	0.00653 (0.005)	NA	NA	1.07 SL (0.02)	1.36 SL (0.05)	1.31 SL (0.025)	0.135 SL (0.0025)	1.4 SL (0.1)	0.973 SL (0.025)	0.98 SL (0.025)	0.763 SL (0.025)
Methyl tert-butyl ether	0.02	ND (0.005)	NA	NA	ND,SL (0.02)	ND,SL (0.05)	ND,SL (0.025)	ND,SL (0.0025)	ND,SL (0.1)	ND,SL (0.025)	ND,SL (0.025)	ND,SL (0.025)
Toluene	1	ND (0.025)	NA	NA	0.219 SL (0.02)	0.235 SL (0.05)	0.243 SL (0.025)	0.0936 SL (0.0025)	0.251 SL (0.1)	0.342 SL (0.025)	0.328 SL (0.025)	0.292 SL (0.025)
1,2,4-Trimethylbenzene	0.53	0.0195 (0.005)	NA	NA	1.11 SL (0.04)	1.59 SL (0.1)	1.39 SL (0.05)	0.103 SL (0.005)	1.38 SL (0.2)	0.873 SL (0.05)	1.16 SL (0.05)	0.677 SL (0.05)
1,3,5-Trimethylbenzene	0.53	ND (0.005)	NA	NA	0.337 SL (0.04)	0.513 SL (0.1)	0.444 SL (0.05)	0.0624 SL (0.005)	0.425 SL (0.2)	0.258 SL (0.05)	0.378 SL (0.05)	0.208 SL (0.05)
Xylenes (total)	10	0.0344 (0.015)	NA	NA	6.03 SL (0.02)	6.74 SL (0.05)	7.43 SL (0.025)	0.243 SL (0.0025)	8.1 SL (0.1)	4.29 SL (0.025)	4.29 SL (0.025)	3.58 SL (0.025)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00005)	NA	NA	0.000199 SL (0.00008)	ND,SL (0.00067)	0.0015 SL (0.000083)	0.0000534 J,SL (0.000083)	0.000372 SL (0.000083)	0.00544 SL (0.0008)	0.009 SL (0.00077)	0.00278 SL (0.00008)
Benzo(a)anthracene	0.0039	ND (0.00005)	NA	NA	ND,SL (0.00004)	ND,SL (0.00033)	0.0000314 J,SL (0.000042)	ND,SL (0.000042)	0.000081 SL (0.000042)	ND,SL (0.0004)	ND,SL (0.00038)	0.0000471 SL (0.00004)
Benzo(a)pyrene	0.0002	ND (0.00005)	NA	NA	ND,SL (0.00004)	ND,SL (0.00033)	ND,SL (0.000042)	ND,SL (0.000042)	0.0000667 SL (0.000042)	ND,SL (0.0004)	ND,SL (0.00038)	ND,SL (0.00004)
Benzo(b)fluoranthene	0.0012	ND (0.00005)	NA	NA	ND,SL (0.00004)	ND,SL (0.00033)	ND,SL (0.000042)	ND,SL (0.000042)	0.000203 SL (0.000042)	ND,SL (0.0004)	ND,SL (0.00038)	0.0000355 J,SL (0.00004)
Benzo(g,h,i)perylene	0.00026	ND (0.00005)	NA	NA	ND,SL (0.00008)	ND,SL (0.00067)	ND,SL (0.000083)	ND,SL (0.000083)	0.000239 SL (0.000083)	ND,SL (0.0008)	ND,SL (0.00077)	ND,SL (0.00008)
Chrysene	0.0019	ND (0.00005)	NA	NA	ND,SL (0.00008)	ND,SL (0.00067)	0.0000442 J,SL (0.000083)	ND,SL (0.000083)	0.0000867 SL (0.000083)	ND,SL (0.0008)	ND,SL (0.00077)	0.0000791 J,SL (0.00008)
Fluorene	1.9	0.000206 (0.00005)	NA	NA	0.00222 SL (0.00008)	0.00224 SL (0.00067)	0.00366 SL (0.000083)	0.000352 SL (0.000083)	0.00169 SL (0.000083)	0.0179 SL (0.0008)	0.0293 SL (0.00077)	0.0117 SL (0.0004)
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.00005)	ND,OE,SL (0.001)	ND,SL (0.00005)	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.000784 (0.00025)	NA	NA	0.117 SL (0.0032)	0.104 SL (0.0067)	0.12 SL (0.0033)	0.0152 SL (0.0017)	0.171 B,SL (0.0042)	0.182 SL (0.008)	0.174 SL (0.0077)	0.253 SL (0.008)
Phenanthrene	1.1	ND (0.00005)	NA	NA	0.00232 SL (0.00008)	0.00366 SL (0.00067)	0.0128 SL (0.0017)	0.0000625 J,SL (0.000083)	0.00314 B,SL (0.000083)	0.0299 SL (0.0008)	0.0759 SL (0.00077)	0.0241 SL (0.008)
Pyrene	0.13	0.000264 (0.00005)	NA	NA	0.000205 SL (0.00008)	ND,SL (0.00067)	0.000809 SL (0.000083)	ND,SL (0.000083)	0.000151 SL (0.000083)	0.00156 SL (0.0008)	0.00295 SL (0.00077)	0.000843 SL (0.00008)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.002)	ND,SL (0.002)	ND,SL (0.002)	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

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3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-237	S-237	S-239	S-239	S-239	S-239	S-239	S-239	S-239	S-239	S-239
Field Sample ID	Groundwater MSC	S-237_20230426SL	S-237_20230531_SL	S-239_12142012	S-239_06_17_2013	S-239~JB68176	S-239-20160817-WG	S-239-20161013-WG	S-239_20180125	S-239-20180402	S-239_20181128	S-239-20190118-WG
Sample Date	Used Aquifer	4/26/2023	5/31/2023	12/14/2012	6/17/2013	5/29/2014	8/17/2016	10/13/2016	1/25/2018	4/2/2018	11/28/2018	1/18/2019
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	8.02 SL (0.025)	10.2 SL (0.05)	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	0.0251 (0.001)
Cumene	3.5	ND,SL (0.05)	0.0323 SL (0.025)	NA	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	0.00372 (0.001)
1,2-Dibromoethane	0.00005	ND,SL (0.00002)	ND,SL (0.00002)	NA	ND (0.00002)	ND (0.00002)	ND (0.00001)	ND (0.00001)	NA	NA	NA	ND (0.00001)
1,2-Dichloroethane	0.005	ND,SL (0.05)	ND,SL (0.025)	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	ND (0.001)
Ethyl Benzene	0.7	0.743 SL (0.05)	0.881 SL (0.025)	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	0.0673 (0.001)
Methyl tert-butyl ether	0.02	ND,SL (0.05)	ND,SL (0.025)	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	ND (0.001)
Toluene	1	0.257 SL (0.05)	0.327 SL (0.025)	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	0.0219 (0.001)
1,2,4-Trimethylbenzene	0.53	0.72 SL (0.1)	0.828 SL (0.05)	NA	0.007 (0.002)	0.00095 J (0.002)	0.00226 (0.001)	ND (0.001)	NA	NA	NA	0.0867 (0.001)
1,3,5-Trimethylbenzene	0.53	0.224 SL (0.1)	0.253 SL (0.05)	NA	0.0023 (0.002)	0.00035 J (0.002)	ND (0.001)	ND (0.001)	NA	NA	NA	0.0288 (0.001)
Xylenes (total)	10	3.49 SL (0.05)	4.25 SL (0.025)	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.005)	0.196 (0.003)
Semivolatile Organic Compounds												
Anthracene	0.066	0.00633 SL (0.0037)	0.00343 SL (0.000083)	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(a)anthracene	0.0039	0.0000357 J,SL (0.000037)	0.000037 J,SL (0.000042)	NA	0.00018 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(a)pyrene	0.0002	ND,SL (0.000037)	ND,SL (0.000042)	NA	0.000193 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(b)fluoranthene	0.0012	ND,SL (0.000037)	ND,SL (0.000042)	NA	0.000242 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.00026	ND,SL (0.000074)	ND,SL (0.000083)	NA	0.00018 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Chrysene	0.0019	0.0000591 J,SL (0.000074)	0.0000592 J,SL (0.000083)	NA	0.000241 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Fluorene	1.9	0.0193 SL (0.0037)	0.02 SL (0.0083)	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Naphthalene	0.1	0.168 SL (0.0074)	0.225 B,SL (0.0083)	NA	ND (0.0001)	ND (0.0001)	0.000739 (0.00025)	ND (0.00025)	NA	NA	NA	NA
Phenanthrene	1.1	0.0438 SL (0.0037)	0.0426 B,SL (0.0083)	NA	0.000195 (0.0001)	ND (0.0001)	0.000119 (0.00005)	ND (0.00005)	NA	NA	NA	NA
Pyrene	0.13	0.0012 SL (0.000074)	0.000862 SL (0.000083)	NA	0.000323 (0.0001)	ND (0.0001)	0.0000656 (0.00005)	ND (0.00005)	NA	NA	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	ND (0.003)	ND (0.003)	0.0037 (0.003)	ND (0.002)	ND (0.002)	NA	NA	NA	NA

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-239	S-240	S-240	S-242	S-242	S-243	S-243	S-243	S-243	S-243	S-243
Field Sample ID	Groundwater MSC	S-239_20190423	40_BASE_GRAB_20191213	S-240_CSIA_20191213	S-242-20160818-WG	S-242-20161011-WG	S-243_12142012	S-243_06_17_2013	S-243 DUP_06_17_2013	S-243	S-243-20160817-WG	S-243-20161013-WG
Sample Date	Used Aquifer	4/23/2019	12/13/2019	12/13/2019	8/18/2016	10/11/2016	12/14/2012	6/17/2013	6/17/2013	5/21/2014	8/17/2016	10/13/2016
Comments	(TDS ≤ 2500)								Field Duplicate			
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	8.24663 (0.072)	8.48 (0.05)	1.64 (0.025)	0.582 (0.005)	NA	NA	NA	NA	NA	NA
Cumene	3.5	NA	0.01727 (0.0006)	NA	ND (0.025)	0.0101 (0.005)	NA	ND (0.002)	ND (0.002)	0.0023 (0.001)	ND (0.001)	ND (0.001)
1,2-Dibromoethane	0.00005	NA	ND (0.00271)	NA	ND (0.00001)	ND (0.00001)	NA	ND (0.00002)	ND (0.00002)	ND (0.00002)	ND (0.00001)	ND (0.00001)
1,2-Dichloroethane	0.005	NA	ND (0.00135)	NA	ND (0.025)	ND (0.005)	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	ND (0.001)	0.5069 (0.0241)	0.511 (0.05)	0.675 (0.025)	0.311 (0.005)	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	0.02	ND (0.001)	5.23161 (0.018)	NA	ND (0.025)	ND (0.005)	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)
Toluene	1	ND (0.001)	0.29678 (0.01811)	0.296 (0.05)	0.175 (0.125)	0.118 (0.025)	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	0.53	NA	0.28301 (0.02409)	NA	0.46 (0.025)	0.278 (0.005)	NA	0.0028 (0.002)	0.0061 (0.002)	0.0634 (0.002)	0.00876 (0.001)	0.0093 (0.001)
1,3,5-Trimethylbenzene	0.53	NA	0.08104 (0.024)	NA	0.159 (0.025)	0.111 (0.005)	NA	0.00041 J (0.002)	0.0009 J (0.002)	0.0138 (0.002)	0.00179 (0.001)	0.0029 (0.001)
Xylenes (total)	10	ND (0.005)	1.81679 J (0.02419)	1.83 (0.15)	1.46 (0.075)	1.13 (0.015)	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	0.000287 (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Benzo(a)anthracene	0.0039	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	0.00122 (0.0001)	0.000479 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Benzo(a)pyrene	0.0002	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	0.00112 (0.0001)	0.000467 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Benzo(b)fluoranthene	0.0012	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	0.00129 (0.0001)	0.000538 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	0.00085 (0.0001)	0.000375 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Chrysene	0.0019	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	0.0014 (0.0001)	0.000568 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Fluorene	1.9	NA	NA	NA	0.000467 (0.00005)	0.00014 (0.00005)	NA	0.000152 (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	ND,OE (0.00005)	ND (0.00005)	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)
Naphthalene	0.1	NA	0.14574 (0.06048)	NA	0.12 (0.005)	0.0101 (0.00025)	NA	ND (0.0001)	ND (0.0001)	0.00562 (0.001)	ND (0.00025)	0.00057 (0.00025)
Phenanthrene	1.1	NA	NA	NA	0.000678 (0.00005)	ND (0.00005)	NA	0.00116 (0.0001)	0.00044 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Pyrene	0.13	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	0.00183 (0.0001)	0.000745 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	ND (0.002)	ND (0.002)	0.0017 J (0.003)	ND (0.003)	ND (0.003)	0.0015 J (0.003)	ND (0.002)	ND (0.002)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:
ND - Not Detected
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H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-243	S-243	S-243	S-243	S-243	S-244	S-244	S-244	S-244	S-245	S-245
Field Sample ID	Groundwater MSC	S-243_20180125	S-243-20180402	S-243_20181128	S-243-20190118-WG	S-243_20190423	S-244_06_13_2013	S-244_06_14_2013	S-244-20160815	S-244-20161011-WG	S-245_06_14_2013	S-245-HS-20160830-WG
Sample Date	Used Aquifer	1/25/2018	4/2/2018	11/28/2018	1/18/2019	4/23/2019	6/13/2013	6/14/2013	8/15/2016	10/11/2016	6/14/2013	8/30/2016
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.0006 J (0.001)	ND (0.001)	ND (0.001)	0.0222 (0.001)	ND (0.001)	0.223 (0.005)	0.0021 (0.001)	0.00249 (0.001)	ND (0.001)	0.164 (0.001)	0.432 (0.1)
Cumene	3.5	NA	NA	NA	0.00467 (0.001)	NA	0.0147 (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	0.0113 (0.002)	0.0192 (0.001)
1,2-Dibromoethane	0.00005	NA	NA	NA	ND (0.00001)	NA	ND (0.00002)	ND (0.00002)	ND (0.00001)	ND (0.00001)	ND (0.00002)	ND (0.00001)
1,2-Dichloroethane	0.005	NA	NA	NA	ND (0.001)	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.01 (0.001)	0.003 (0.001)	0.0004 J (0.001)	0.0755 (0.001)	0.001 J (0.001)	0.156 (0.001)	0.0028 (0.001)	0.00107 (0.001)	ND (0.001)	0.198 (0.001)	0.533 (0.1)
Methyl tert-butyl ether	0.02	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Toluene	1	0.001 (0.001)	ND (0.001)	ND (0.001)	0.0232 (0.001)	ND (0.001)	0.0628 (0.001)	0.0023 (0.001)	ND (0.005)	ND (0.005)	0.0359 (0.001)	0.0597 (0.005)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	0.106 (0.001)	NA	0.133 (0.002)	0.007 (0.002)	ND (0.001)	ND (0.001)	0.405 (0.01)	0.282 (0.1)
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	0.0353 (0.001)	NA	0.0406 (0.002)	0.0023 (0.002)	ND (0.001)	ND (0.001)	0.112 (0.002)	0.0876 (0.001)
Xylenes (total)	10	0.014 (0.001)	0.004 (0.001)	ND (0.005)	0.214 (0.003)	0.002 J (0.005)	0.387 (0.001)	0.0183 (0.001)	ND (0.003)	ND (0.003)	0.49 (0.005)	0.631 (0.3)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	0.0000566 (0.00005)	0.000155 (0.0001)	0.000466 (0.0001)
Benzo(a)anthracene	0.0039	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(a)pyrene	0.0002	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(b)fluoranthene	0.0012	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Chrysene	0.0019	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Fluorene	1.9	NA	NA	NA	NA	NA	0.000469 (0.0001)	ND (0.0001)	ND (0.00005)	0.000332 (0.00005)	0.000989 (0.0001)	0.00275 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	ND (0.0001)
Naphthalene	0.1	NA	NA	NA	NA	NA	0.00819 (0.001)	0.00106 (0.0001)	ND (0.00025)	0.000605 (0.00025)	0.00863 (0.001)	0.107 (0.0005)
Phenanthrene	1.1	NA	NA	NA	NA	NA	0.000171 (0.0001)	ND (0.0001)	ND (0.00005)	0.000543 (0.00005)	0.000264 (0.0001)	0.00387 (0.0001)
Pyrene	0.13	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	0.000258 (0.0001)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	NA	NA	ND (0.003)	ND (0.003)	ND (0.002)	ND (0.002)	ND (0.003)	ND (0.002)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
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J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-245	S-245	S-246	S-246	S-246	S-246	S-246	S-25	S-25	S-25	S-25
Field Sample ID	Groundwater MSC	S-245-20161013-WG	S-245-HS-20161013-WG	S-246_072210	S-246A_06_05_2013	S-246_06_17_2013	S-246-20160816-WG	S-246-20161011-WG	S-25~11/16/2000	S-25~11/14/2001	S-25~11/13/2002	S-25~11/13/2003
Sample Date	Used Aquifer	10/13/2016	10/13/2016	7/22/2010	6/5/2013	6/17/2013	8/16/2016	10/11/2016	11/16/2000	11/14/2001	11/13/2002	11/13/2003
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.45 (0.025)	0.378 (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.0175 (0.001)	ND (0.001)	NA	NA	NA	NA
Cumene	3.5	0.0334 (0.001)	0.0315 (0.005)	ND (0.002)	ND (0.002)	ND (0.002)	0.00436 (0.001)	ND (0.001)	NA	NA	NA	NA
1,2-Dibromoethane	0.00005	ND (0.00001)	ND (0.00001)	ND (0.000029)	ND (0.00002)	ND (0.00002)	ND (0.00001)	ND (0.00001)	NA	NA	NA	NA
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	NA
Ethyl Benzene	0.7	0.723 (0.025)	0.576 (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.0165 (0.001)	ND (0.001)	NA	NA	NA	NA
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	NA
Toluene	1	0.0802 (0.005)	0.0662 (0.025)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	NA	NA	NA	NA
1,2,4-Trimethylbenzene	0.53	0.488 (0.025)	0.418 (0.005)	ND (0.002)	ND (0.002)	ND (0.002)	0.0455 (0.001)	0.0018 (0.001)	NA	NA	NA	NA
1,3,5-Trimethylbenzene	0.53	0.164 (0.001)	0.152 (0.005)	ND (0.002)	ND (0.002)	ND (0.002)	0.0141 (0.001)	ND (0.001)	NA	NA	NA	NA
Xylenes (total)	10	0.888 (0.075)	0.678 (0.015)	ND (0.001)	ND (0.001)	0.00024 J (0.001)	0.0437 (0.003)	ND (0.003)	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	0.066	0.00045 (0.0001)	0.00031 (0.0001)	NA	ND (0.0001)	ND (0.001)	0.0000941 (0.00005)	0.0000609 (0.00005)	NA	NA	NA	NA
Benzo(a)anthracene	0.0039	ND (0.0001)	ND (0.0001)	NA	ND (0.0001)	ND (0.001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(a)pyrene	0.0002	ND (0.0001)	ND (0.0001)	NA	ND (0.0001)	ND (0.001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(b)fluoranthene	0.0012	ND (0.0001)	ND (0.0001)	NA	ND (0.0001)	ND (0.001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	ND (0.0001)	NA	ND (0.0001)	ND (0.001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Chrysene	0.0019	ND (0.0001)	ND (0.0001)	ND (0.005)	ND (0.0001)	ND (0.001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Fluorene	1.9	0.00247 (0.0001)	0.00226 (0.0001)	ND (0.005)	0.000173 (0.0001)	ND (0.001)	0.000389 (0.00005)	0.00015 (0.00005)	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.0001)	ND (0.0001)	NA	NA	NA	ND (0.00005)	ND (0.00005)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.002)
Naphthalene	0.1	0.127 (0.0005)	0.0906 (0.0005)	ND (0.005)	0.000492 (0.0001)	ND (0.001)	0.00783 (0.00025)	0.000525 B (0.00025)	NA	NA	NA	NA
Phenanthrene	1.1	0.00344 (0.0001)	0.00274 (0.0001)	ND (0.005)	0.00017 (0.0001)	ND (0.001)	0.000435 (0.00005)	0.000146 (0.00005)	NA	NA	NA	NA
Pyrene	0.13	0.000165 (0.0001)	0.000221 (0.0001)	ND (0.005)	ND (0.0001)	ND (0.001)	ND (0.00005)	0.0000737 (0.00005)	NA	NA	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	0.055	0.0146	NA	NA
Lead (Dissolved)	0.005	ND (0.002)	ND (0.002)	ND (0.000001)	ND (0.003)	ND (0.003)	ND (0.002)	ND (0.002)	NA	NA	NA	NA

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XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-25	S-25	S-25	S-25	S-25	S-25	S-25	S-25	S-25	S-255	S-255
Field Sample ID	Groundwater MSC	S-25_11_8_2005	S-25~11/30/2006	S-25~12/13/2007	AOI3_S-25_121515	S-25-20160512	S-25-20170522	S_25_20180626	S-25 DUP_20180626	S-25_20190709	S-255_06/23/2009	S-255_091709
Sample Date	Used Aquifer	11/8/2005	11/30/2006	12/13/2007	12/15/2015	5/12/2016	5/22/2017	6/26/2018	6/26/2018	7/9/2019	6/23/2009	9/17/2009
Comments	(TDS ≤ 2500)								Field Duplicate			
Volatile Organic Compounds												
Benzene	0.005	NA	NA	NA	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	0.047 (0.001)
Cumene	3.5	NA	NA	NA	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.005)	NA	0.002 (0.002)
1,2-Dibromoethane	0.00005	NA	NA	NA	ND (0.00002)	ND (0.000029)	ND (0.000029)	ND (0.00001)	ND (0.00001)	ND (0.000028)	NA	ND (0.00003)
1,2-Dichloroethane	0.005	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	NA	ND (0.001)
Ethyl Benzene	0.7	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	0.024 (0.001)
Methyl tert-butyl ether	0.02	NA	NA	NA	0.00048 J (0.001)	ND (0.001)	ND (0.001)	0.00209 (0.001)	0.00209 (0.001)	ND (0.001)	NA	ND (0.001)
Toluene	1	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	0.01 (0.001)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.005)	NA	NA
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.005)	NA	NA
Xylenes (total)	10	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.003)	ND (0.005)	NA	0.037 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA
Benzo(a)anthracene	0.0039	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA
Benzo(a)pyrene	0.0002	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA
Benzo(b)fluoranthene	0.0012	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA
Chrysene	0.0019	NA	NA	NA	ND (0.0001)	ND (0.0005)	0.0001 J (0.0005)	ND (0.00005)	ND (0.00005)	0.0001 J (0.0005)	NA	ND (0.005)
Fluorene	1.9	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	ND (0.005)
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00025)	ND (0.00025)	ND (0.0005)	NA	ND (0.005)
Phenanthrene	1.1	NA	NA	NA	ND (0.0001)	ND (0.0005)	0.0001 J (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	ND (0.005)
Pyrene	0.13	NA	NA	NA	ND (0.0001)	ND (0.0005)	0.0001 J (0.0005)	ND (0.00005)	ND (0.00005)	0.0002 J (0.0005)	NA	ND (0.005)
Metals												
Lead	0.005	ND (0.01)	ND	ND	NA	NA	NA	NA	NA	NA	ND (0.001)	NA
Lead (Dissolved)	0.005	NA	NA	NA	ND (0.003)	ND (0.001)	0.00021 J (0.001)	ND (0.002)	ND (0.002)	ND (0.003)	NA	ND (0.000001)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:
ND - Not Detected
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J+ - Indicates an estimated value that is biased high
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-255	S-255	S-255	S-255	S-256	S-256	S-256	S-256	S-257	S-257	S-257
Field Sample ID	Groundwater MSC	S-255_120909	S-255_072012	S-255~JB68176	S-255-20141209	NEW-1_091407	S-256_072012	S-256	S-256-20141212	NEW-3_091407	S-257_071912	S-257~JB67921
Sample Date	Used Aquifer	12/9/2009	7/20/2012	5/29/2014	12/9/2014	9/14/2007	7/20/2012	5/28/2014	12/12/2014	9/14/2007	7/19/2012	5/27/2014
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.079 (0.001)	0.033 (0.001)	ND (0.0005)	0.00023 J (0.0005)	1.6 (0.02)	0.027 (0.005)	0.0128 (0.0005)	0.0072 (0.0005)	0.99 (0.02)	0.11 (0.005)	0.048 (0.0005)
Cumene	3.5	0.007 (0.002)	0.003 (0.002)	0.0012 (0.001)	0.00065 J (0.001)	NA	0.043 (0.01)	0.0391 (0.001)	0.0328 (0.001)	NA	0.048 (0.01)	0.0701 (0.001)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000029)	ND (0.000024)	ND (0.00002)	NA	ND (0.000029)	ND (0.00002)	ND (0.00002)	NA	ND (0.000029)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	ND (0.005)	ND (0.001)	ND (0.001)	NA	ND (0.005)	ND (0.001)
Ethyl Benzene	0.7	0.035 (0.001)	0.001 (0.001)	ND (0.001)	ND (0.001)	0.46 (0.005)	0.16 (0.005)	0.16 (0.001)	0.0897 (0.001)	1.1 (0.02)	0.048 (0.005)	0.0335 (0.001)
Methyl tert-butyl ether	0.02	0.004 (0.001)	0.0009 J (0.001)	ND (0.001)	ND (0.001)	0.11 (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.02)	0.003 J (0.005)	0.003 (0.001)
Toluene	1	0.006 (0.001)	0.001 (0.001)	ND (0.001)	ND (0.001)	0.11 (0.005)	0.015 (0.005)	0.0076 (0.001)	0.004 (0.001)	0.24 (0.02)	0.031 (0.005)	0.0237 (0.001)
1,2,4-Trimethylbenzene	0.53	NA	0.001 J (0.002)	0.00023 J (0.002)	ND (0.002)	NA	0.54 (0.01)	0.393 (0.02)	0.199 (0.008)	NA	0.059 (0.01)	0.0011 J (0.002)
1,3,5-Trimethylbenzene	0.53	NA	ND (0.002)	ND (0.002)	ND (0.002)	NA	0.19 (0.01)	0.118 (0.002)	0.0771 (0.002)	NA	0.067 (0.01)	0.0055 (0.002)
Xylenes (total)	10	0.07 (0.001)	0.001 (0.001)	ND (0.001)	ND (0.001)	1.6 (0.005)	0.097 (0.005)	0.232 (0.001)	0.2 (0.001)	2.2 (0.02)	0.014 (0.005)	0.0054 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	0.0002 J (0.0005)	0.000503 (0.0001)	0.000588 (0.0001)	NA	ND (0.005)	ND (0.0001)
Benzo(a)anthracene	0.0039	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.005)	ND (0.0001)
Benzo(a)pyrene	0.0002	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.005)	ND (0.0001)
Benzo(b)fluoranthene	0.0012	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.005)	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.005)	ND (0.0001)
Chrysene	0.0019	ND (0.005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.005)	ND (0.0001)
Fluorene	1.9	ND (0.005)	0.0003 J (0.0005)	ND (0.0001)	ND (0.0001)	NA	0.001 (0.0005)	0.0024 (0.0001)	0.00279 (0.0001)	NA	0.002 J (0.005)	0.00114 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.007 (0.005)	0.0003 J (0.0005)	0.000166 (0.0001)	ND (0.0001)	NA	0.042 (0.0005)	0.0496 (0.001)	0.0433 (0.001)	NA	0.12 (0.005)	0.012 (0.001)
Phenanthrene	1.1	ND (0.005)	0.0004 J (0.0005)	0.000116 (0.0001)	ND (0.0001)	NA	0.002 (0.0005)	0.00352 (0.0001)	0.00494 (0.0001)	NA	0.002 J (0.005)	0.000934 (0.0001)
Pyrene	0.13	ND (0.005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	0.0001 J (0.0005)	0.000306 (0.0001)	0.000351 (0.0001)	NA	ND (0.005)	ND (0.0001)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.000001)	ND (0.001)	0.0041 (0.003)	ND (0.003)	NA	0.000085 J (0.001)	0.0013 J (0.003)	ND (0.003)	NA	0.000044 J (0.001)	ND (0.003)

Notes:

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J+ - Indicates an estimated value that is biased high
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OE - The associated batch QC was outside the established quality control range for precision/accuracy.
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XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-257	S-258	S-258	S-258	S-258	S-259	S-259	S-259	S-259	S-259	S-259
Field Sample ID	Groundwater MSC	S-257-20141212	NEW-4_091407	S-258_071912	S-258~JB67921	S-258-20141215	NEW-5_091407	S-259_071912	S-259_040313	S-259~4/3/2013	S-259~JB67921	S-259-20141215
Sample Date	Used Aquifer	12/12/2014	9/14/2007	7/19/2012	5/27/2014	12/15/2014	9/14/2007	7/19/2012	4/3/2013	4/3/2013	5/27/2014	12/15/2014
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.0397 (0.0005)	1.7 (0.05)	0.06 (0.005)	0.243 (0.005)	0.00038 J (0.0005)	1.6 (0.02)	0.064 (0.005)	0.707 (0.005)	NA	0.502 (0.01)	0.0064 (0.0005)
Cumene	3.5	0.0563 (0.001)	NA	0.01 J (0.01)	0.0127 (0.001)	0.0024 (0.001)	NA	0.026 (0.01)	0.0415 (0.01)	NA	0.0434 (0.002)	0.0107 (0.001)
1,2-Dibromoethane	0.00005	ND (0.00002)	NA	ND (0.000029)	ND (0.00002)	ND (0.00002)	NA	ND (0.000029)	ND (0.00002)	NA	ND (0.00002)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.001)	NA	ND (0.005)	ND (0.001)	ND (0.001)	NA	ND (0.005)	ND (0.005)	NA	ND (0.002)	ND (0.001)
Ethyl Benzene	0.7	0.0224 (0.001)	1.2 (0.05)	0.023 (0.005)	0.0861 (0.001)	ND (0.001)	0.77 (0.02)	0.023 (0.005)	0.122 (0.005)	NA	0.0923 (0.002)	0.0061 (0.001)
Methyl tert-butyl ether	0.02	0.0022 (0.001)	0.009 (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	0.02 (0.02)	ND (0.005)	0.0028 J (0.005)	NA	ND (0.002)	ND (0.001)
Toluene	1	0.016 (0.001)	0.12 (0.005)	0.003 J (0.005)	0.0298 (0.001)	0.00075 J (0.001)	0.094 (0.02)	0.014 (0.005)	0.0459 (0.005)	NA	0.027 (0.002)	0.0016 (0.001)
1,2,4-Trimethylbenzene	0.53	0.0011 J (0.002)	NA	0.003 J (0.01)	0.0116 (0.002)	ND (0.002)	NA	ND (0.01)	0.0031 J (0.01)	NA	0.0021 J (0.004)	0.00027 J (0.002)
1,3,5-Trimethylbenzene	0.53	0.0031 (0.002)	NA	ND (0.01)	0.005 (0.002)	ND (0.002)	NA	0.012 (0.01)	0.0103 (0.01)	NA	0.005 (0.004)	0.00051 J (0.002)
Xylenes (total)	10	0.0042 (0.001)	1.7 (0.05)	0.017 (0.005)	0.0366 (0.001)	ND (0.001)	0.67 (0.02)	0.009 (0.005)	0.0212 (0.005)	NA	0.0152 (0.002)	0.0022 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.0001)	NA	ND (0.005)	ND (0.0001)	ND (0.0001)	NA	ND (0.005)	0.000221 (0.0001)	NA	0.000373 (0.0001)	0.000227 (0.0001)
Benzo(a)anthracene	0.0039	ND (0.0001)	NA	ND (0.005)	ND (0.0001)	0.00011 (0.0001)	NA	ND (0.005)	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)
Benzo(a)pyrene	0.0002	ND (0.0001)	NA	ND (0.005)	ND (0.0001)	0.000116 (0.0001)	NA	ND (0.005)	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)
Benzo(b)fluoranthene	0.0012	ND (0.0001)	NA	ND (0.005)	ND (0.0001)	0.000167 (0.0001)	NA	ND (0.005)	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	NA	ND (0.005)	ND (0.0001)	ND (0.0001)	NA	ND (0.005)	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)
Chrysene	0.0019	ND (0.0001)	NA	ND (0.005)	ND (0.0001)	0.000135 (0.0001)	NA	ND (0.005)	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)
Fluorene	1.9	0.00102 (0.0001)	NA	ND (0.005)	0.000278 (0.0001)	0.000194 (0.0001)	NA	0.004 J (0.005)	0.00209 (0.0001)	NA	0.00318 (0.0001)	0.00307 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.0097 (0.001)	NA	ND (0.005)	0.0109 (0.001)	ND (0.0001)	NA	0.014 (0.005)	0.0184 (0.001)	NA	0.0142 (0.001)	ND (0.0001)
Phenanthrene	1.1	0.000909 (0.0001)	NA	ND (0.005)	0.000328 (0.0001)	0.000417 (0.0001)	NA	0.005 J (0.005)	0.00263 (0.0001)	NA	0.0036 (0.0001)	0.00276 (0.0001)
Pyrene	0.13	ND (0.0001)	NA	ND (0.005)	ND (0.0001)	0.000249 (0.0001)	NA	ND (0.005)	ND (0.0001)	NA	ND (0.0001)	0.000198 (0.0001)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	0.0015 J (0.003)	NA	0.00063 J (0.001)	ND (0.003)	ND (0.003)	NA	0.00052 J (0.001)	NA	ND (0.001)	ND (0.003)	ND (0.003)

Notes:

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-26	S-26	S-26	S-26	S-26	S-26	S-260	S-260	S-260	S-260	S-263
Field Sample ID	Groundwater MSC	S-26~10/21/2004	S26-050205	S-26~11/29/2006	S-26_06_12_2013	S-26-20160810-WG	S-26-20161013-WG	NEW-6_091407	S-260_072012	S-260~JB67921	S-260-20141212	S-263_06/23/2009
Sample Date	Used Aquifer	10/21/2004	5/2/2005	11/29/2006	6/12/2013	8/10/2016	10/13/2016	9/14/2007	7/20/2012	5/27/2014	12/12/2014	6/23/2009
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	ND (0.005)	ND (0.0005)	ND (0.001)	ND (0.005)	ND (0.001)	2 (0.05)	0.028 (0.001)	0.0213 (0.0005)	0.0193 (0.0005)	NA
Cumene	3.5	ND (0.005)	ND (0.005)	NA	ND (0.002)	ND (0.005)	ND (0.001)	NA	0.027 (0.002)	0.0114 (0.001)	0.0154 (0.001)	NA
1,2-Dibromoethane	0.00005	ND (0.00002)	ND (0.000029)	NA	ND (0.00002)	ND (0.00001)	ND (0.00001)	NA	ND (0.000029)	ND (0.00002)	ND (0.00002)	NA
1,2-Dichloroethane	0.005	ND (0.005)	ND (0.005)	NA	ND (0.001)	ND (0.005)	ND (0.001)	NA	ND (0.001)	ND (0.001)	ND (0.001)	NA
Ethyl Benzene	0.7	NA	ND (0.005)	ND (0.0008)	ND (0.001)	ND (0.005)	ND (0.001)	0.067 (0.005)	0.007 (0.001)	0.00068 J (0.001)	0.00058 J (0.001)	NA
Methyl tert-butyl ether	0.02	0.039	0.032 (0.005)	NA	0.0022 (0.001)	ND (0.005)	0.00225 (0.001)	0.1 (0.005)	0.088 (0.001)	0.00063 J (0.001)	0.00094 J (0.001)	NA
Toluene	1	NA	ND (0.005)	ND (0.0007)	ND (0.001)	ND (0.025)	ND (0.005)	0.1 (0.005)	0.01 (0.001)	0.0019 (0.001)	0.0022 (0.001)	NA
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	ND (0.002)	ND (0.005)	ND (0.001)	NA	0.001 J (0.002)	0.00038 J (0.002)	0.00039 J (0.002)	NA
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	ND (0.002)	ND (0.005)	ND (0.001)	NA	0.002 J (0.002)	0.00098 J (0.002)	0.0014 J (0.002)	NA
Xylenes (total)	10	NA	ND (0.005)	ND (0.0008)	ND (0.001)	ND (0.015)	ND (0.003)	0.034 (0.005)	0.012 (0.001)	0.004 (0.001)	0.0059 (0.001)	NA
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	ND (0.0001)	0.000109 (0.00005)	0.000092 (0.00005)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA
Benzo(a)anthracene	0.0039	NA	NA	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA
Benzo(a)pyrene	0.0002	NA	NA	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	0.0001 J (0.0005)	ND (0.0001)	ND (0.0001)	NA
Benzo(b)fluoranthene	0.0012	NA	NA	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	0.0001 J (0.0005)	ND (0.0001)	ND (0.0001)	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA
Chrysene	0.0019	ND (0.00014)	ND (0.01)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	0.0001 J (0.0005)	ND (0.0001)	ND (0.0001)	NA
Fluorene	1.9	ND (0.01)	ND (0.01)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	0.0003 J (0.0005)	ND (0.0001)	ND (0.0001)	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA
Naphthalene	0.1	ND (0.005)	ND (0.01)	NA	ND (0.0001)	0.00039 (0.00025)	0.000587 (0.00025)	NA	0.0004 J (0.0005)	ND (0.0001)	ND (0.0001)	NA
Phenanthrene	1.1	ND (0.01)	ND (0.01)	NA	ND (0.0001)	ND (0.00005)	0.0000662 (0.00005)	NA	0.0003 J (0.0005)	ND (0.0001)	ND (0.0001)	NA
Pyrene	0.13	ND (0.01)	ND (0.01)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	0.0002 J (0.0005)	ND (0.0001)	ND (0.0001)	NA
Metals												
Lead	0.005	NA	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.001)
Lead (Dissolved)	0.005	ND (0.005)	NA	NA	ND (0.003)	ND (0.002)	ND (0.002)	NA	0.00015 J (0.001)	ND (0.003)	0.0024 J (0.003)	NA

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-263	S-263	S-263	S-263	S-263	S-27	S-27	S-27	S-278	S-278	S-279
Field Sample ID	Groundwater MSC	S-263_091609	S-263_120909	S-263_072312	S-263~JB68176	S-263-20141212	S-27	S27-050205	S-27-20161013-WG	S-278-20160818-WG	S-278-20161014-WG	S-279-20160818-WG
Sample Date	Used Aquifer	9/16/2009	12/9/2009	7/23/2012	5/29/2014	12/12/2014	10/21/2004	5/2/2005	10/13/2016	8/18/2016	10/14/2016	8/18/2016
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	2.6 (0.05)	3.3 (0.05)	1.8 (0.01)	0.661 (0.002)	1.53 (0.005)	ND (0.001)	ND (0.005)	ND (0.001)	0.762 SL (0.1)	0.766 SL (0.1)	0.802 SL (0.1)
Cumene	3.5	0.057 (0.01)	0.058 (0.01)	0.03 (0.02)	0.0297 (0.004)	0.0422 (0.01)	ND (0.005)	0.005 (0.005)	ND (0.001)	ND,SL (0.1)	ND,SL (0.1)	ND,SL (0.1)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000029)	ND (0.000029)	ND (0.00002)	0.000035 (0.00002)	ND (0.00002)	ND (0.000029)	ND (0.00001)	ND,SL (0.00001)	ND,SL (0.00001)	ND,SL (0.00001)
1,2-Dichloroethane	0.005	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.004)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.001)	ND,SL (0.1)	ND,SL (0.1)	ND,SL (0.1)
Ethyl Benzene	0.7	0.92 (0.005)	0.82 (0.005)	0.49 (0.01)	0.282 (0.004)	0.339 (0.01)	ND (0.005)	ND (0.005)	ND (0.001)	0.424 SL (0.1)	0.396 SL (0.1)	0.56 SL (0.1)
Methyl tert-butyl ether	0.02	0.12 (0.005)	0.15 (0.005)	0.037 (0.01)	0.0178 (0.004)	0.0616 (0.01)	ND (0.005)	ND (0.005)	ND (0.001)	ND,SL (0.1)	ND,SL (0.1)	ND,SL (0.1)
Toluene	1	0.11 (0.005)	0.1 (0.005)	0.037 (0.01)	0.0233 (0.004)	0.0854 (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND,SL (0.5)	ND,SL (0.5)	ND,SL (0.5)
1,2,4-Trimethylbenzene	0.53	NA	NA	0.46 (0.02)	0.331 (0.008)	0.317 (0.02)	NA	NA	ND (0.001)	1.03 SL (0.1)	0.714 SL (0.1)	0.318 SL (0.1)
1,3,5-Trimethylbenzene	0.53	NA	NA	0.14 (0.02)	0.124 (0.008)	0.161 (0.02)	NA	NA	ND (0.001)	0.495 SL (0.1)	0.334 SL (0.1)	0.127 SL (0.1)
Xylenes (total)	10	2 (0.005)	1.4 (0.005)	0.42 (0.01)	0.168 (0.004)	0.283 (0.01)	ND (0.01)	0.026 (0.005)	ND (0.003)	1.83 SL (0.3)	1.6 SL (0.3)	0.588 SL (0.3)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	0.002 (0.0005)	0.000419 (0.0001)	0.000907 (0.0001)	NA	NA	ND (0.00005)	0.0149 SL (0.0001)	ND,SL (0.00005)	ND,SL (0.00005)
Benzo(a)anthracene	0.0039	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND	NA	ND (0.00005)	0.00059 SL (0.0001)	0.000143 SL (0.00005)	0.000119 SL (0.00005)
Benzo(a)pyrene	0.0002	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND	NA	ND (0.00005)	0.00035 SL (0.0001)	0.000068 SL (0.00005)	0.0000852 SL (0.00005)
Benzo(b)fluoranthene	0.0012	NA	NA	0.0001 J (0.0005)	ND (0.0001)	ND (0.0001)	ND	NA	ND (0.00005)	0.00043 SL (0.0001)	0.000108 SL (0.00005)	0.000103 SL (0.00005)
Benzo(g,h,i)perylene	0.00026	NA	NA	0.0001 J (0.0005)	ND (0.0001)	ND (0.0001)	NA	NA	ND (0.00005)	0.000457 SL (0.0001)	0.0000999 SL (0.00005)	0.000144 SL (0.00005)
Chrysene	0.0019	ND (0.005)	ND (0.005)	0.0001 J (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.00014)	ND (0.01)	ND (0.00005)	0.00101 SL (0.0001)	0.000237 SL (0.00005)	0.000105 SL (0.00005)
Fluorene	1.9	0.036 (0.005)	0.016 (0.005)	0.008 (0.0005)	0.00291 (0.0001)	0.00449 (0.0001)	ND (0.01)	ND (0.01)	ND (0.00005)	0.0664 SL (0.002)	0.0122 SL (0.00005)	0.0041 SL (0.00005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	0.000189 OE,SL (0.0001)	ND,SL (0.00005)	0.0000514 OE,SL (0.00005)
Naphthalene	0.1	0.31 (0.024)	0.23 (0.047)	0.15 (0.005)	0.0666 (0.001)	0.0878 (0.001)	ND (0.005)	0.014 (0.01)	ND (0.00025)	0.538 SL (0.01)	0.3 SL (0.005)	0.143 SL (0.005)
Phenanthrene	1.1	0.11 (0.005)	0.031 (0.005)	0.01 (0.0005)	0.0034 (0.0001)	0.00865 (0.001)	ND (0.01)	ND (0.01)	ND (0.00005)	0.106 SL (0.0001)	0.0291 SL (0.00005)	0.00669 SL (0.00005)
Pyrene	0.13	0.011 (0.005)	ND (0.005)	0.001 (0.0005)	0.000323 (0.0001)	0.000518 (0.0001)	ND (0.01)	ND (0.01)	ND (0.00005)	0.0151 SL (0.0001)	0.00343 SL (0.00005)	0.00125 SL (0.00005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	ND	ND (0.001)	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.000001)	ND (0.000001)	0.0023 (0.001)	ND (0.003)	ND (0.003)	ND (0.005)	NA	ND (0.002)	ND,SL (0.002)	ND,SL (0.002)	ND,SL (0.002)

Notes:

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2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

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H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-279	S-279	S-28	S-28	S-28	S-281	S-281	S-281	S-285	S-285	S-290
Field Sample ID	Groundwater MSC	S-279-20161011-WG	79_BASE_GRAB_20191213	S-28	S28-050405	S-28_06_13_2013	S-281_071510	AOI3_S-281_061215	AOI3_S-281_123015	AOI3_S-285_010716	AOI3-S-285-030916	S-290_070710
Sample Date	Used Aquifer	10/11/2016	12/13/2019	10/21/2004	5/4/2005	6/13/2013	7/15/2010	6/12/2015	12/30/2015	1/7/2016	3/9/2016	7/7/2010
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.632 SL (0.02)	0.9105 (0.018)	0.057	0.051 (0.005)	0.0053 (0.001)	ND (0.01)	0.0006 J (0.001)	ND (0.0005)	0.00027 J,SL (0.0005)	ND,SL (0.001)	0.003 (0.001)
Cumene	3.5	0.0401 SL (0.001)	0.0417 (0.0006)	0.0053	0.006 (0.005)	0.0096 (0.002)	0.22 (0.02)	0.0412 (0.001)	0.0567 (0.001)	0.0106 SL (0.001)	0.0065 SL (0.001)	ND (0.002)
1,2-Dibromoethane	0.00005	ND,SL (0.00001)	ND (0.00271)	ND (0.00002)	ND (0.000029)	ND (0.00002)	ND (0.000029)	0.000086 (0.00004)	ND (0.000019)	ND,SL (0.000019)	ND,SL (0.00004)	ND (0.000029)
1,2-Dichloroethane	0.005	ND,SL (0.001)	ND (0.00135)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.01)	ND (0.001)	ND (0.001)	ND,SL (0.001)	ND,SL (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.391 SL (0.02)	0.38873 (0.00602)	ND (0.005)	0.012 (0.005)	0.00034 J (0.001)	0.08 (0.01)	0.00046 J (0.001)	0.00048 J (0.001)	ND,SL (0.001)	ND,SL (0.001)	0.012 (0.001)
Methyl tert-butyl ether	0.02	ND,SL (0.001)	ND (0.00045)	0.18	0.27 (0.025)	0.0195 (0.001)	ND (0.01)	0.00042 J (0.001)	0.0027 (0.001)	ND,SL (0.001)	ND,SL (0.001)	ND (0.001)
Toluene	1	0.0722 SL (0.005)	0.06561 (0.00453)	ND (0.005)	ND (0.005)	0.00047 J (0.001)	ND (0.01)	0.0013 (0.001)	0.00026 J (0.001)	0.00028 J,SL (0.001)	ND,SL (0.001)	0.038 (0.001)
1,2,4-Trimethylbenzene	0.53	0.133 SL (0.001)	0.40167 (0.00602)	NA	NA	0.0029 (0.002)	1.2 (0.02)	0.0115 (0.001)	0.0026 (0.002)	0.00026 J,SL (0.002)	0.00094 J,SL (0.001)	0.033 (0.002)
1,3,5-Trimethylbenzene	0.53	0.064 SL (0.001)	0.16431 (0.006)	NA	NA	0.0004 J (0.002)	0.52 (0.02)	0.0149 (0.001)	0.0052 (0.002)	ND,SL (0.002)	ND,SL (0.001)	0.009 (0.002)
Xylenes (total)	10	0.4 SL (0.003)	0.62957 J (0.00605)	ND (0.01)	0.013 (0.005)	0.00094 J (0.001)	0.13 (0.01)	0.0021 J (0.003)	ND (0.001)	0.00061 J,SL (0.001)	ND,SL (0.003)	0.099 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	0.00293 SL (0.00005)	NA	NA	NA	ND (0.00011)	NA	0.00012 (0.0001)	0.00017 (0.0001)	0.0022 SL (0.00011)	0.00022 SL (0.0001)	NA
Benzo(a)anthracene	0.0039	0.0000765 SL (0.00005)	NA	ND	NA	ND (0.00011)	NA	ND (0.0001)	ND (0.00005)	0.00135 SL (0.000055)	0.000047 J,SL (0.0001)	NA
Benzo(a)pyrene	0.0002	ND,SL (0.00005)	NA	ND	NA	ND (0.00011)	NA	ND (0.0001)	ND (0.00005)	0.000824 SL (0.000055)	0.000036 J,SL (0.0001)	NA
Benzo(b)fluoranthene	0.0012	ND,SL (0.00005)	NA	ND	NA	ND (0.00011)	NA	ND (0.0001)	ND (0.0001)	0.000755 SL (0.00011)	0.000035 J,SL (0.0001)	NA
Benzo(g,h,i)perylene	0.00026	ND,SL (0.00005)	NA	NA	NA	ND (0.00011)	NA	0.00002 J (0.0001)	ND (0.0001)	0.000585 SL (0.00011)	0.000022 J,SL (0.0001)	NA
Chrysene	0.0019	0.000111 SL (0.00005)	NA	ND (0.0007)	ND (0.01)	ND (0.00011)	ND (0.005)	ND (0.0001)	ND (0.0001)	0.00271 SL (0.00011)	0.00013 SL (0.0001)	ND (0.005)
Fluorene	1.9	0.0124 SL (0.00005)	NA	0.26	0.012 (0.01)	0.00979 (0.0011)	0.005 (0.005)	0.00059 (0.0001)	0.000775 (0.0001)	0.0164 SL (0.0011)	0.00024 SL (0.0001)	ND (0.005)
Indeno(1,2,3-cd)pyrene	0.0023	ND,SL (0.00005)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.136 SL (0.005)	0.21943 (0.01512)	ND (0.005)	0.012 (0.01)	ND (0.00011)	0.038 (0.005)	ND (0.0001)	ND (0.0001)	ND,SL (0.00011)	0.0011 SL (0.0001)	ND (0.005)
Phenanthrene	1.1	0.0332 SL (0.00005)	NA	0.55	0.026 (0.01)	0.0163 (0.0011)	ND (0.005)	0.00054 (0.0001)	0.000566 (0.0001)	0.0288 SL (0.0011)	0.00048 SL (0.0001)	ND (0.005)
Pyrene	0.13	0.00299 SL (0.00005)	NA	0.029	ND (0.01)	0.00331 (0.00011)	ND (0.005)	0.000095 J (0.0001)	0.000136 (0.0001)	0.00432 SL (0.00011)	0.00039 SL (0.0001)	ND (0.005)
Metals												
Lead	0.005	NA	NA	ND	ND (0.001)	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND,SL (0.002)	NA	ND (0.005)	NA	ND (0.003)	ND (0.000001)	ND (0.005)	ND (0.003)	ND,SL (0.003)	ND,SL (0.005)	ND (0.000001)

Notes:

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3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-290	S-290	S-291	S-291	S-291	S-291	S-291	S-30	S-30	S-307	S-307
Field Sample ID	Groundwater MSC	AOI3_S-290_061015	AOI3_S-290_121515	S-291_070710	AOI3_S-291_082313	AOI3_DUP_082313	AOI3_S-291_061115	AOI3_S-291_121515	S-30-20160819-WG	S-30-20161011-WG	S-307_071310	S-307_06_05_2013
Sample Date	Used Aquifer	6/10/2015	12/15/2015	7/7/2010	8/23/2013	8/23/2013	6/11/2015	12/15/2015	8/19/2016	10/11/2016	7/13/2010	6/5/2013
Comments	(TDS ≤ 2500)					Field Duplicate						
Volatile Organic Compounds												
Benzene	0.005	0.0011 (0.001)	ND (0.0005)	ND (0.01)	0.00037 J (0.001)	0.00048 J (0.001)	0.00099 J (0.001)	ND (0.0005)	ND,SL (0.005)	0.00311 SL (0.001)	ND (0.001)	ND (0.001)
Cumene	3.5	0.00024 J (0.001)	0.001 (0.001)	ND (0.02)	0.0015 J (0.002)	0.0015 J (0.002)	0.0037 (0.001)	ND (0.001)	0.0328 SL (0.005)	0.0247 SL (0.001)	ND (0.002)	ND (0.002)
1,2-Dibromoethane	0.00005	ND (0.00004)	ND (0.000019)	ND (0.000029)	ND (0.00002)	ND (0.00002)	0.000086 (0.00004)	ND (0.000019)	ND,SL (0.00001)	ND,SL (0.00001)	ND (0.000029)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.005)	ND,SL (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.00059 J (0.001)	ND (0.001)	ND (0.01)	ND (0.001)	ND (0.001)	0.00063 J (0.001)	ND (0.001)	ND,SL (0.005)	ND,SL (0.001)	ND (0.001)	ND (0.001)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	ND (0.01)	0.0012 (0.001)	0.00093 J (0.001)	0.002 (0.001)	0.00061 J (0.001)	0.019 SL (0.005)	0.0239 SL (0.001)	ND (0.001)	ND (0.001)
Toluene	1	0.0025 (0.001)	ND (0.001)	ND (0.01)	ND (0.001)	ND (0.001)	0.002 (0.001)	ND (0.001)	ND,SL (0.025)	ND,SL (0.005)	ND (0.001)	ND (0.001)
1,2,4-Trimethylbenzene	0.53	0.001 (0.001)	ND (0.002)	ND (0.02)	0.00025 J (0.002)	ND (0.002)	0.0013 (0.001)	ND (0.002)	ND,SL (0.005)	0.0102 SL (0.001)	ND (0.002)	ND (0.002)
1,3,5-Trimethylbenzene	0.53	0.00021 J (0.001)	ND (0.002)	ND (0.02)	ND (0.002)	ND (0.002)	0.00046 J (0.001)	ND (0.002)	ND,SL (0.005)	0.00602 SL (0.001)	ND (0.002)	ND (0.002)
Xylenes (total)	10	0.0033 (0.003)	ND (0.001)	ND (0.01)	0.00038 J (0.001)	0.00042 J (0.001)	0.0034 (0.003)	0.001 (0.001)	ND,SL (0.015)	0.00623 SL (0.003)	ND (0.001)	ND (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.0001)	ND (0.0001)	NA	0.000521 (0.0001)	0.000536 (0.0001)	0.00022 (0.0001)	0.000223 (0.0001)	ND,SL (0.0025)	ND,SL (0.0025)	NA	ND (0.0001)
Benzo(a)anthracene	0.0039	ND (0.0001)	ND (0.00005)	NA	ND (0.0001)	ND (0.0001)	0.000031 J (0.0001)	ND (0.00005)	ND,SL (0.0025)	ND,SL (0.0025)	NA	ND (0.0001)
Benzo(a)pyrene	0.0002	ND (0.0001)	ND (0.00005)	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND,SL (0.0025)	ND,SL (0.0025)	NA	ND (0.0001)
Benzo(b)fluoranthene	0.0012	ND (0.0001)	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND,SL (0.0025)	ND,SL (0.0025)	NA	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND,SL (0.0025)	ND,SL (0.0025)	NA	ND (0.0001)
Chrysene	0.0019	ND (0.0001)	ND (0.0001)	ND (0.005)	ND (0.0001)	ND (0.0001)	0.000014 J (0.0001)	ND (0.0001)	ND,SL (0.0025)	ND,SL (0.0025)	ND (0.005)	ND (0.0001)
Fluorene	1.9	ND (0.0001)	ND (0.0001)	ND (0.005)	0.00309 (0.0001)	0.00297 (0.0001)	0.0013 (0.0001)	0.0014 (0.0001)	0.139 SL (0.0025)	0.268 SL (0.0025)	ND (0.005)	0.000731 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	ND,SL (0.0025)	ND,SL (0.0025)	NA	NA
Naphthalene	0.1	0.00021 (0.0001)	ND (0.0001)	0.025 (0.005)	0.000785 (0.0001)	0.000752 (0.0001)	0.00046 (0.0001)	0.00398 (0.0001)	0.0298 SL (0.0125)	0.122 SL (0.0125)	ND (0.005)	ND (0.0001)
Phenanthrene	1.1	ND (0.0001)	ND (0.0001)	ND (0.005)	0.0019 (0.0001)	0.00184 (0.0001)	0.000067 J (0.0001)	0.000669 (0.0001)	0.311 SL (0.0025)	0.669 SL (0.0025)	ND (0.005)	ND (0.0001)
Pyrene	0.13	ND (0.0001)	ND (0.0001)	ND (0.005)	0.000416 (0.0001)	0.000398 (0.0001)	0.00021 (0.0001)	0.00023 (0.0001)	0.0294 SL (0.0025)	0.073 SL (0.0025)	ND (0.005)	ND (0.0001)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.005)	ND (0.006)	ND (0.000001)	ND (0.003)	ND (0.003)	ND (0.005)	ND (0.003)	ND,SL (0.002)	ND,SL (0.002)	ND (0.000001)	ND (0.003)

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-307	S-307	S-307	S-31	S-310	S-310	S-312	S-312	S-312	S-312	S-32
Field Sample ID	Groundwater MSC	S-307-20160812-WG	S-307-20161004-WG	S-307-20161004-WG-DUP	S31-050205	S-310_070810	S-310_06_04_2013	S-312_070810	S-312_072312	S-312	S-312-20141208	S-32-20160819-WG
Sample Date	Used Aquifer	8/12/2016	10/4/2016	10/4/2016	5/2/2005	7/8/2010	6/4/2013	7/8/2010	7/23/2012	5/29/2014	12/8/2014	8/19/2016
Comments	(TDS ≤ 2500)			Field Duplicate								
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	ND (0.001)	ND (0.001)	0.053 (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0005)	ND (0.0005)	ND,SL (0.005)
Cumene	3.5	ND (0.001)	ND (0.001)	ND (0.001)	0.006 (0.005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND,SL (0.005)
1,2-Dibromoethane	0.00005	ND (0.00004)	ND (0.00004)	ND (0.00004)	ND (0.000028)	ND (0.000028)	ND (0.00002)	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.00002)	ND,SL (0.00001)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.005)
Ethyl Benzene	0.7	ND (0.001)	ND (0.001)	ND (0.001)	0.039 (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.005)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	ND (0.001)	0.17 (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0233 SL (0.005)
Toluene	1	ND (0.001)	ND (0.001)	ND (0.001)	0.04 (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.025)
1,2,4-Trimethylbenzene	0.53	ND (0.001)	ND (0.001)	ND (0.001)	NA	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	0.0024 (0.002)	ND (0.002)	ND,SL (0.005)
1,3,5-Trimethylbenzene	0.53	ND (0.001)	ND (0.001)	ND (0.001)	NA	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	0.0012 J (0.002)	ND (0.002)	ND,SL (0.005)
Xylenes (total)	10	ND (0.003)	ND (0.003)	ND (0.003)	0.15 (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0024 (0.001)	ND (0.001)	ND,SL (0.015)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	0.0001 (0.0001)	0.000097 J (0.0001)	NA	NA	ND (0.00011)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND,SL (0.003)
Benzo(a)anthracene	0.0039	NA	0.000026 J (0.0001)	0.000039 J (0.0001)	NA	NA	ND (0.00011)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	0.00548 SL (0.003)
Benzo(a)pyrene	0.0002	NA	0.0000084 J (0.0001)	0.0000078 J (0.0001)	NA	NA	ND (0.00011)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND,SL (0.003)
Benzo(b)fluoranthene	0.0012	NA	ND (0.0001)	ND (0.0001)	NA	NA	ND (0.00011)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND,SL (0.003)
Benzo(g,h,i)perylene	0.00026	NA	ND (0.0001)	ND (0.0001)	NA	NA	ND (0.00011)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND,SL (0.003)
Chrysene	0.0019	NA	0.00004 J (0.0001)	0.0000096 J (0.0001)	NA	ND (0.049)	ND (0.00011)	ND (0.005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	0.00649 SL (0.003)
Fluorene	1.9	NA	0.00025 (0.0001)	0.00029 (0.0001)	NA	ND (0.049)	ND (0.00011)	ND (0.005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	0.164 SL (0.003)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND,SL (0.003)
Naphthalene	0.1	NA	0.00011 (0.0001)	0.00016 (0.0001)	NA	ND (0.049)	ND (0.00011)	ND (0.005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND,SL (0.015)
Phenanthrene	1.1	NA	0.000048 J (0.0001)	0.000035 J (0.0001)	NA	ND (0.049)	ND (0.00011)	ND (0.005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	0.439 SL (0.003)
Pyrene	0.13	NA	0.0001 J (0.0001)	0.000078 J (0.0001)	NA	ND (0.049)	ND (0.00011)	ND (0.005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	0.152 SL (0.003)
Metals												
Lead	0.005	NA	NA	NA	ND (0.001)	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.005)	ND (0.005)	ND (0.005)	NA	ND (0.000001)	ND (0.003)	ND (0.000001)	0.00032 J (0.001)	0.002 J (0.003)	0.0017 J (0.003)	ND,SL (0.002)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
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3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:
ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-32	S-329	S-329	S-329	S-329	S-34	S-35	S-35	S-35	S-36	S-361
Field Sample ID	Groundwater MSC	S-32-20161011-WG	S-329_102110	S-329_06_17_2013	S-329-20160817-WG	S-329-20161013-WG	S-34_06_14_2013	S-35-20160818-WG	S-35-20161012-WG	S-35-20161012-WG-DUP	S-36_06_14_2013	S-361_06_04_2013
Sample Date	Used Aquifer	10/11/2016	10/21/2010	6/17/2013	8/17/2016	10/13/2016	6/14/2013	8/18/2016	10/12/2016	10/12/2016	6/14/2013	6/4/2013
Comments	(TDS ≤ 2500)									Field Duplicate		
Volatile Organic Compounds												
Benzene	0.005	0.00265 SL (0.001)	0.32 (0.01)	0.0086 (0.001)	0.29 (0.05)	0.42 (0.01)	NA	ND (0.005)	ND (0.001)	ND (0.001)	0.288 (0.005)	0.0401 (0.001)
Cumene	3.5	0.00131 SL (0.001)	NA	ND (0.002)	ND (0.05)	0.0568 (0.01)	NA	ND (0.005)	ND (0.001)	ND (0.001)	0.0418 (0.002)	0.0301 (0.002)
1,2-Dibromoethane	0.00005	ND,SL (0.00001)	NA	ND (0.00002)	ND (0.00001)	ND (0.00001)	NA	ND (0.00001)	ND (0.00001)	ND (0.00001)	ND (0.00002)	ND (0.00002)
1,2-Dichloroethane	0.005	ND,SL (0.001)	NA	ND (0.001)	ND (0.05)	ND (0.01)	NA	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.00148 SL (0.001)	0.13 (0.001)	ND (0.001)	0.0617 (0.05)	0.1 (0.01)	NA	ND (0.005)	ND (0.001)	ND (0.001)	0.0369 (0.001)	0.0572 (0.001)
Methyl tert-butyl ether	0.02	0.0017 SL (0.001)	0.005 (0.001)	ND (0.001)	ND (0.05)	ND (0.01)	NA	ND (0.005)	ND (0.001)	ND (0.001)	0.0219 (0.001)	0.0106 (0.001)
Toluene	1	0.00778 SL (0.005)	0.11 (0.001)	ND (0.001)	ND (0.25)	ND (0.05)	NA	ND (0.025)	ND (0.005)	ND (0.005)	0.071 (0.001)	0.0019 (0.001)
1,2,4-Trimethylbenzene	0.53	0.00542 SL (0.001)	NA	0.00028 J (0.002)	ND (0.05)	ND (0.01)	NA	ND (0.005)	ND (0.001)	ND (0.001)	0.003 (0.002)	0.0405 (0.002)
1,3,5-Trimethylbenzene	0.53	0.00184 SL (0.001)	NA	ND (0.002)	ND (0.05)	ND (0.01)	NA	ND (0.005)	ND (0.001)	ND (0.001)	0.0555 (0.002)	0.0071 (0.002)
Xylenes (total)	10	0.0163 SL (0.003)	0.32 (0.001)	0.00035 J (0.001)	ND (0.15)	ND (0.03)	NA	ND (0.015)	ND (0.003)	ND (0.003)	0.121 (0.001)	0.0528 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	ND,SL (0.00005)	NA	ND (0.0001)	ND (0.00005)	0.000123 (0.00005)	NA	ND (0.00267)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(a)anthracene	0.0039	0.000513 SL (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	ND (0.00267)	ND (0.00005)	0.0000527 (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(a)pyrene	0.0002	0.000164 SL (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	ND (0.00267)	ND (0.00005)	0.0000684 (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(b)fluoranthene	0.0012	0.000182 SL (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	ND (0.00267)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	0.000116 SL (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	ND (0.00267)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Chrysene	0.0019	0.000628 SL (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	ND (0.00267)	ND (0.00005)	0.000244 (0.00005)	ND (0.0001)	ND (0.0001)
Fluorene	1.9	0.00882 SL (0.00005)	NA	ND (0.0001)	0.00027 (0.00005)	0.000616 (0.00005)	NA	ND (0.00267)	ND (0.00005)	ND (0.00005)	0.0115 (0.001)	0.000687 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	0.0000673 SL (0.00005)	NA	NA	ND (0.00005)	ND (0.00005)	NA	ND,OE (0.00267)	ND (0.00005)	ND (0.00005)	NA	NA
Naphthalene	0.1	0.0103 SL (0.00025)	NA	0.000197 (0.0001)	0.0089 (0.00025)	0.00938 (0.00025)	NA	ND (0.0133)	ND (0.00025)	0.000627 B (0.00025)	ND (0.0001)	ND (0.0001)
Phenanthrene	1.1	0.0307 SL (0.00005)	NA	0.000309 (0.0001)	0.0000508 (0.00005)	0.00109 (0.00005)	NA	0.11 (0.00267)	ND (0.00005)	ND (0.00005)	0.0165 (0.001)	ND (0.0001)
Pyrene	0.13	0.0182 SL (0.0005)	NA	ND (0.0001)	ND (0.00005)	0.0000591 (0.00005)	NA	0.0716 (0.00267)	0.00032 J (0.00005)	0.00178 J (0.00005)	0.000802 (0.0001)	ND (0.0001)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND,SL (0.002)	NA	ND (0.003)	ND (0.002)	ND (0.002)	0.0034 (0.003)	ND (0.002)	ND (0.002)	ND (0.002)	NA	ND (0.003)

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XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-361	S-362	S-364	S-365	S-365	S-366	S-366	S-366	S-366	S-367	S-367
Field Sample ID	Groundwater MSC	S-361-20161004-WG	S-362_06_04_2013	S-364_06_12_2013	S-365-20160818-WG	S-365-20161012-WG	S-366_06_12_2013	S-366-20160816-WG	S-366-20161011-WG	S-366_20220328	S-367_06_12_2013	S-367-20160815
Sample Date	Used Aquifer	10/4/2016	6/4/2013	6/12/2013	8/18/2016	10/12/2016	6/12/2013	8/16/2016	10/11/2016	3/28/2022	6/12/2013	8/15/2016
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	ND (0.001)	0.0098 (0.001)	0.00704 SL (0.005)	0.0645 SL (0.05)	0.232 (0.005)	0.00651 (0.001)	0.00762 (0.001)	ND (0.005)	0.00083 J (0.001)	ND (0.001)
Cumene	3.5	0.0079 (0.001)	0.0208 (0.002)	0.0577 (0.002)	0.0109 SL (0.005)	0.0674 SL (0.05)	0.0529 (0.002)	0.0496 (0.001)	0.0459 (0.001)	0.0368 (0.01)	0.0458 (0.002)	ND (0.001)
1,2-Dibromoethane	0.00005	ND (0.00004)	ND (0.00002)	ND (0.00002)	ND,SL (0.00001)	ND,SL (0.00001)	ND (0.00002)	ND (0.00001)	ND (0.00001)	ND (0.00002)	ND (0.00002)	ND (0.00001)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.005)	ND,SL (0.05)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	ND (0.001)	0.00046 J (0.001)	0.0408 (0.001)	ND,SL (0.005)	ND,SL (0.05)	0.13 (0.001)	0.00381 (0.001)	ND (0.001)	ND (0.01)	0.0576 (0.001)	ND (0.001)
Methyl tert-butyl ether	0.02	0.0028 (0.001)	ND (0.001)	0.00054 J (0.001)	ND,SL (0.005)	ND,SL (0.05)	0.00046 J (0.001)	ND (0.001)	ND (0.001)	ND (0.01)	0.00038 J (0.001)	ND (0.001)
Toluene	1	ND (0.001)	ND (0.001)	0.0027 (0.001)	ND,SL (0.025)	ND,SL (0.25)	0.0037 (0.001)	ND (0.005)	ND (0.005)	ND (0.01)	0.00028 J (0.001)	ND (0.005)
1,2,4-Trimethylbenzene	0.53	ND (0.001)	ND (0.002)	0.0148 (0.002)	ND,SL (0.005)	ND,SL (0.05)	0.148 (0.002)	0.0351 (0.001)	0.0137 (0.001)	ND (0.02)	0.0539 (0.002)	ND (0.001)
1,3,5-Trimethylbenzene	0.53	ND (0.001)	ND (0.002)	0.0135 (0.002)	0.0125 SL (0.005)	ND,SL (0.05)	0.0451 (0.002)	0.0229 (0.001)	0.0134 (0.001)	ND (0.02)	0.0147 (0.002)	ND (0.001)
Xylenes (total)	10	ND (0.003)	0.00036 J (0.001)	0.0167 (0.001)	ND,SL (0.015)	ND,SL (0.15)	0.335 (0.001)	0.0103 (0.003)	0.00317 (0.003)	ND (0.01)	0.0453 (0.001)	ND (0.003)
Semivolatile Organic Compounds												
Anthracene	0.066	0.00033 (0.0001)	0.000912 (0.0001)	0.000278 (0.0001)	0.000963 SL (0.00005)	0.00243 SL (0.000057)	0.000605 (0.0001)	0.000385 (0.00005)	0.000177 (0.00005)	0.000403 (0.000074)	ND (0.0001)	0.000176 (0.00005)
Benzo(a)anthracene	0.0039	0.000065 J (0.0001)	0.000358 (0.0001)	ND (0.0001)	0.000515 SL (0.00005)	0.000916 SL (0.000057)	0.000327 (0.0001)	0.000111 (0.00005)	ND (0.00005)	0.0000405 (0.000037)	ND (0.0001)	ND (0.00005)
Benzo(a)pyrene	0.0002	0.00003 J (0.0001)	ND (0.0001)	ND (0.0001)	0.000244 SL (0.00005)	0.000421 SL (0.000057)	ND (0.0001)	0.0000559 (0.00005)	ND (0.00005)	0.0000253 J (0.000037)	ND (0.0001)	ND (0.00005)
Benzo(b)fluoranthene	0.0012	0.000056 J (0.0001)	ND (0.0001)	ND (0.0001)	0.000244 SL (0.00005)	0.000351 SL (0.000057)	ND (0.0001)	0.0000637 (0.00005)	ND (0.00005)	0.0000293 J (0.000037)	ND (0.0001)	ND (0.00005)
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	ND (0.0001)	ND (0.0001)	0.000129 SL (0.00005)	0.000194 SL (0.000057)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.000074)	ND (0.0001)	ND (0.00005)
Chrysene	0.0019	0.00021 (0.0001)	0.000424 (0.0001)	ND (0.0001)	0.000497 SL (0.00005)	0.000856 SL (0.000057)	0.000429 (0.0001)	0.0000864 (0.00005)	ND (0.00005)	0.0000594 J (0.000074)	ND (0.0001)	ND (0.00005)
Fluorene	1.9	0.0024 (0.0001)	0.00241 (0.0001)	0.00121 (0.0001)	0.00239 SL (0.00005)	0.00607 SL (0.000057)	0.00324 (0.0001)	0.00293 (0.00005)	0.00141 (0.00005)	0.000542 (0.000074)	0.000873 (0.0001)	0.00153 (0.00005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	0.0000626 OE,SL (0.00005)	0.0001 SL (0.000057)	NA	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.00005)
Naphthalene	0.1	0.00046 (0.0001)	ND (0.0001)	0.0199 (0.001)	0.00443 SL (0.00025)	0.0235 SL (0.00573)	NA	0.00754 (0.00025)	0.00135 (0.00025)	ND (0.000074)	0.00134 (0.0001)	ND (0.00025)
Phenanthrene	1.1	0.0042 (0.0001)	0.00386 (0.0001)	0.00129 (0.0001)	0.00273 SL (0.00005)	0.0125 SL (0.000057)	0.00261 (0.0001)	0.00323 (0.00005)	0.000981 (0.00005)	ND (0.000074)	ND (0.0001)	ND (0.00005)
Pyrene	0.13	0.00036 (0.0001)	0.00104 (0.0001)	0.00021 (0.0001)	0.00224 SL (0.00005)	0.0031 SL (0.000057)	0.000711 (0.0001)	0.000504 (0.00005)	0.0000679 (0.00005)	0.000154 (0.000074)	ND (0.0001)	0.000135 (0.00005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.005)	ND (0.003)	ND (0.003)	ND,SL (0.002)	ND,SL (0.002)	ND (0.003)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.003)	ND (0.002)

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Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-367	S-368	S-368	S-368	S-368	S-369	S-369	S-369	S-369	S-369	S-369
Field Sample ID	Groundwater MSC	S-367-20161011-WG	S-368_06_12_2013	S-368-20161011-WG	S-368_SL_20210519	S-368_20220328	S-369-20160816-WG	S-369-20161010-WG	S-369_20191023	I69_BASE_GRAB_20191205	69_20210510_410-39343-1	DUP-8_20210510
Sample Date	Used Aquifer	10/11/2016	6/12/2013	10/11/2016	5/19/2021	3/28/2022	8/16/2016	10/10/2016	10/23/2019	12/5/2019	5/10/2021	5/10/2021
Comments	(TDS ≤ 2500)											Field Duplicate
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	0.0013 (0.001)	0.243 SL (0.01)	0.07 SL (0.001)	0.0725 (0.0005)	NA	NA	NA	0.91839 (0.018)	0.36 (0.01)	0.37 (0.01)
Cumene	3.5	0.00475 (0.001)	0.042 (0.002)	0.0344 SL (0.01)	0.0077 SL (0.005)	0.013 (0.001)	NA	NA	NA	0.04607 (0.0006)	0.091 (0.005)	0.1 (0.005)
1,2-Dibromoethane	0.00005	ND (0.00001)	ND (0.00002)	ND,SL (0.00001)	ND,SL (0.000028)	ND (0.00002)	NA	NA	NA	ND (0.00271)	ND (0.000029)	ND (0.000028)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND,SL (0.01)	ND,SL (0.001)	ND (0.001)	NA	NA	NA	ND (0.00135)	ND (0.001)	0.0033 (0.001)
Ethyl Benzene	0.7	ND (0.001)	0.0022 (0.001)	0.0901 SL (0.01)	0.0026 SL (0.001)	0.0024 (0.001)	NA	NA	NA	0.00711 (0.0006)	0.0097 (0.001)	0.01 (0.001)
Methyl tert-butyl ether	0.02	ND (0.001)	0.00036 J (0.001)	ND,SL (0.01)	ND,SL (0.001)	ND (0.001)	NA	NA	NA	0.01411 (0.00045)	0.0019 (0.001)	0.002 (0.001)
Toluene	1	ND (0.005)	0.00097 J (0.001)	0.352 SL (0.05)	0.0034 SL (0.001)	0.0025 (0.001)	NA	NA	NA	0.04364 (0.00045)	0.037 (0.001)	0.041 (0.001)
1,2,4-Trimethylbenzene	0.53	ND (0.001)	0.0028 (0.002)	0.589 SL (0.01)	0.0096 SL (0.005)	0.0079 (0.002)	NA	NA	NA	ND (0.0006)	0.012 (0.005)	0.013 (0.005)
1,3,5-Trimethylbenzene	0.53	ND (0.001)	0.001 J (0.002)	0.217 SL (0.01)	0.014 SL (0.005)	0.0121 (0.002)	NA	NA	NA	0.00278 (0.0006)	0.0024 J (0.005)	0.0025 J (0.005)
Xylenes (total)	10	ND (0.003)	0.0066 (0.001)	0.995 SL (0.03)	0.017 SL (0.006)	0.0203 (0.001)	NA	NA	NA	0.02785 J (0.0006)	0.025 (0.006)	0.026 (0.006)
Semivolatile Organic Compounds												
Anthracene	0.066	0.0000819 (0.00005)	0.000138 (0.0001)	0.0455 SL (0.0025)	0.003 SL (0.00051)	0.00175 (0.000074)	NA	NA	ND (0.0005)	NA	0.00011 J (0.00053)	0.00012 J (0.0005)
Benzo(a)anthracene	0.0039	ND (0.00005)	ND (0.0001)	0.00448 SL (0.0025)	0.00052 SL (0.00051)	0.000212 (0.000037)	NA	NA	ND (0.0005)	NA	ND (0.00053)	ND (0.0005)
Benzo(a)pyrene	0.0002	ND (0.00005)	ND (0.0001)	ND,SL (0.0025)	ND,SL (0.00051)	ND (0.000037)	NA	NA	ND (0.0005)	NA	ND (0.00053)	ND (0.0005)
Benzo(b)fluoranthene	0.0012	ND (0.00005)	ND (0.0001)	ND,SL (0.0025)	ND,SL (0.00051)	0.0000391 (0.000037)	NA	NA	ND (0.0005)	NA	ND (0.00053)	ND (0.0005)
Benzo(g,h,i)perylene	0.00026	ND (0.00005)	ND (0.0001)	ND,SL (0.0025)	ND,SL (0.00051)	ND (0.000074)	NA	NA	ND (0.0005)	NA	ND (0.00053)	ND (0.0005)
Chrysene	0.0019	ND (0.00005)	ND (0.0001)	0.00595 SL (0.0025)	0.00057 SL (0.00051)	0.000472 (0.000074)	NA	NA	ND (0.0005)	NA	ND (0.00053)	ND (0.0005)
Fluorene	1.9	0.00146 (0.00005)	0.00156 (0.0001)	0.0893 SL (0.0025)	0.0069 SL (0.00051)	0.00482 (0.00037)	NA	NA	0.002 (0.0005)	NA	0.0017 (0.00053)	0.0021 (0.0005)
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.00005)	NA	ND,SL (0.0025)	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Naphthalene	0.1	ND (0.00025)	ND (0.0001)	0.429 SL (0.0125)	ND,SL (0.00051)	0.00185 (0.000074)	NA	NA	NA	ND (0.00151)	0.0011 (0.00053)	ND (0.0005)
Phenanthrene	1.1	ND (0.00005)	0.000887 (0.0001)	0.352 SL (0.0025)	0.015 SL (0.00051)	0.0075 (0.00037)	NA	NA	0.0009 (0.0005)	NA	0.0011 (0.00053)	0.0013 (0.0005)
Pyrene	0.13	ND (0.00005)	ND (0.0001)	0.0862 SL (0.0025)	0.0057 SL (0.00051)	0.00257 (0.000074)	NA	NA	ND (0.0005)	NA	ND (0.00053)	ND (0.0005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.002)	ND (0.003)	ND,SL (0.002)	0.000076 J,SL (0.00052)	ND (0.001)	NA	NA	0.00064 (0.0005)	NA	0.00079 (0.00052)	0.00076 (0.00052)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:
ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
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H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-369	S-369	S-370	S-370	S-370	S-371	S-371	S-371	S-372	S-372	S-372
Field Sample ID	Groundwater MSC	S-369_20220404_42610	S-369_20230427	S-370_06_14_2013	S-370-20160816-WG	S-370-20161012-WG	S-371_06_14_2013	S-371-20160816-WG	S-371-20161012-WG	S-372_06_13_2013	AOI3_S-372_121715	S-372-20160817-WG
Sample Date	Used Aquifer	4/4/2022	4/27/2023	6/14/2013	8/16/2016	10/12/2016	6/14/2013	8/16/2016	10/12/2016	6/13/2013	12/17/2015	8/17/2016
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.611 (0.002)	0.343 (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	0.0136 (0.001)	0.0469 (0.025)	0.0244 J- (0.01)	0.0015 (0.001)	0.0015 (0.0005)	ND (0.001)
Cumene	3.5	0.0886 (0.004)	0.0736 (0.001)	0.004 (0.002)	0.00583 (0.001)	0.0129 (0.001)	0.0155 (0.002)	0.0513 (0.025)	0.0367 J- (0.01)	0.0244 (0.002)	0.0525 (0.001)	0.0238 (0.001)
1,2-Dibromoethane	0.00005	ND (0.00002)	ND (0.000021)	ND (0.00002)	ND (0.00001)	ND (0.00001)	ND (0.00002)	ND (0.00001)	ND (0.00001)	ND (0.00002)	ND (0.000045)	ND (0.00001)
1,2-Dichloroethane	0.005	ND (0.004)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.025)	ND,J (0.01)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.0105 (0.004)	0.0083 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0155 (0.001)	0.567 (0.025)	0.224 J- (0.01)	0.0014 (0.001)	0.0018 (0.001)	ND (0.001)
Methyl tert-butyl ether	0.02	0.0221 (0.004)	0.0073 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0023 (0.001)	ND (0.025)	ND,J (0.01)	0.0047 (0.001)	0.0026 (0.001)	ND (0.001)
Toluene	1	0.0428 (0.004)	0.035 (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	0.006 (0.001)	ND (0.125)	ND,J (0.05)	0.00028 J (0.001)	0.00084 J (0.001)	ND (0.005)
1,2,4-Trimethylbenzene	0.53	ND (0.008)	0.0027 (0.002)	0.00028 J (0.002)	0.0019 (0.001)	ND (0.001)	0.0445 (0.002)	1.19 (0.025)	0.844 J- (0.01)	0.00063 J (0.002)	0.0024 (0.002)	ND (0.001)
1,3,5-Trimethylbenzene	0.53	ND (0.008)	0.0024 (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	0.0183 (0.002)	0.411 (0.025)	0.338 J- (0.01)	0.00041 J (0.002)	0.001 J (0.002)	ND (0.001)
Xylenes (total)	10	0.0343 (0.004)	0.028 (0.001)	ND (0.001)	ND (0.003)	ND (0.003)	0.0556 (0.001)	1.45 (0.075)	0.649 J- (0.03)	0.00086 J (0.001)	0.0018 (0.001)	ND (0.003)
Semivolatile Organic Compounds												
Anthracene	0.066	0.000159 B (0.00013)	0.000284 (0.000083)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	0.00135 (0.00005)	0.00332 (0.001)	ND (0.0001)	ND (0.0001)	ND (0.00005)
Benzo(a)anthracene	0.0039	0.0000885 B (0.000067)	0.0000913 (0.000042)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.00005)	ND (0.001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Benzo(a)pyrene	0.0002	0.0000639 J (0.000067)	0.0000402 J (0.000042)	ND (0.0001)	ND (0.00005)	0.0000604 (0.00005)	ND (0.0001)	ND (0.00005)	ND (0.001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Benzo(b)fluoranthene	0.0012	0.0000544 B,J (0.000067)	0.0000663 (0.000042)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.00005)	ND (0.001)	ND (0.0001)	ND (0.0001)	ND (0.00005)
Benzo(g,h,i)perylene	0.00026	ND (0.00013)	0.000045 J (0.000083)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.00005)	ND (0.001)	ND (0.0001)	ND (0.0001)	ND (0.00005)
Chrysene	0.0019	0.0000951 J (0.00013)	0.000134 (0.000083)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	0.0000504 (0.00005)	ND (0.001)	ND (0.0001)	ND (0.0001)	ND (0.00005)
Fluorene	1.9	0.00129 B (0.00013)	0.00134 (0.000083)	ND (0.0001)	0.00684 (0.00005)	0.00532 (0.00005)	0.00144 (0.0001)	0.00718 (0.00005)	0.0215 (0.001)	0.000174 (0.0001)	0.000302 (0.0001)	0.000237 (0.00005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	ND (0.00005)	ND (0.001)	NA	NA	ND (0.00005)
Naphthalene	0.1	0.00103 B (0.00013)	ND (0.000083)	ND (0.0001)	0.00472 (0.00025)	0.00222 (0.00025)	0.00252 (0.0001)	0.242 (0.005)	0.119 (0.005)	ND (0.0001)	ND (0.0001)	0.00168 (0.00025)
Phenanthrene	1.1	0.00105 B (0.00013)	0.00223 (0.000083)	ND (0.0001)	0.00346 (0.00005)	0.00277 (0.00005)	0.000606 (0.0001)	0.0133 (0.00005)	0.0365 (0.001)	ND (0.0001)	0.000179 (0.0001)	0.000146 (0.00005)
Pyrene	0.13	0.000188 (0.00013)	0.000234 (0.000083)	ND (0.0001)	0.000149 (0.00005)	0.0000812 (0.00005)	ND (0.0001)	0.000511 (0.00005)	0.00189 (0.001)	ND (0.0001)	ND (0.0001)	ND (0.00005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.001)	0.0012 (0.001)	ND (0.003)	ND (0.002)	ND (0.002)	ND (0.003)	ND (0.002)	ND (0.002)	ND (0.003)	ND (0.003)	ND (0.002)

Notes:

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-372	S-373	S-374	S-374	S-374	S-374	S-374	S-374	S-375	S-375	S-375
Field Sample ID	Groundwater MSC	S-372-20161013-WG	S-373-20161014-WG	S-374_20191023	S-374_CSIA_20191209	S-374_20200901	S-374_20210504	S-374_20220404	S-374_20230501	S-375_20191023	375_BASE_GRAB_20191209	S-375_CSIA_20191209
Sample Date	Used Aquifer	10/13/2016	10/14/2016	10/23/2019	12/9/2019	9/1/2020	5/4/2021	4/4/2022	5/1/2023	10/23/2019	12/9/2019	12/9/2019
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	3.33 SL (0.2)	NA	0.123	0.19 (0.005)	0.23 (0.005)	0.385 (0.0025)	0.14 (0.002)	NA	NA	0.794
Cumene	3.5	0.0361 (0.001)	ND,SL (0.2)	0.12 (0.025)	NA	0.097 (0.025)	0.092 (0.025)	0.137 (0.005)	0.0708 (0.004)	NA	0.04802 (0.0006)	NA
1,2-Dibromoethane	0.00005	ND (0.00001)	ND,SL (0.00001)	0.000025 J (0.000028)	NA	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.000021)	NA	ND (0.00271)	NA
1,2-Dichloroethane	0.005	ND (0.001)	ND,SL (0.2)	ND (0.025)	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.004)	NA	ND (0.00135)	NA
Ethyl Benzene	0.7	ND (0.001)	0.752 SL (0.2)	NA	1.03	0.98 (0.005)	0.89 (0.005)	1.44 (0.05)	0.555 (0.004)	NA	NA	0.811
Methyl tert-butyl ether	0.02	0.00127 (0.001)	ND,SL (0.2)	ND (0.005)	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.004)	NA	0.00068 J (0.00045)	NA
Toluene	1	ND (0.005)	ND,SL (1)	NA	0.255	0.79 (0.005)	0.31 (0.005)	0.188 (0.005)	0.0673 (0.004)	NA	NA	0.799
1,2,4-Trimethylbenzene	0.53	ND (0.001)	1.01 SL (0.2)	0.95 (0.025)	NA	0.77 (0.025)	0.65 (0.025)	0.886 (0.01)	0.444 (0.008)	NA	0.68194 (0.02409)	NA
1,3,5-Trimethylbenzene	0.53	ND (0.001)	0.295 SL (0.2)	0.22 (0.025)	NA	0.16 (0.025)	0.14 (0.025)	0.169 (0.01)	0.0957 (0.008)	NA	0.20951 (0.024)	NA
Xylenes (total)	10	ND (0.003)	3.84 SL (0.6)	NA	1.86	2.1 (0.03)	1.9 (0.03)	1.97 (0.005)	0.724 (0.004)	NA	NA	3.59
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00005)	0.355 SL (0.025)	ND (0.0005)	NA	ND,H (0.00051)	ND (0.00051)	ND (0.000071)	ND (0.00008)	ND (0.0005)	NA	NA
Benzo(a)anthracene	0.0039	ND (0.00005)	ND,SL (0.025)	ND (0.0005)	NA	ND,H (0.00051)	ND (0.00051)	ND (0.000036)	ND (0.00004)	ND (0.0005)	NA	NA
Benzo(a)pyrene	0.0002	ND (0.00005)	0.000289 SL (0.00005)	ND (0.0005)	NA	ND,H (0.00051)	ND (0.00051)	ND (0.000036)	ND (0.00004)	ND (0.0005)	NA	NA
Benzo(b)fluoranthene	0.0012	ND (0.00005)	0.000323 SL (0.00005)	ND (0.0005)	NA	ND,H (0.00051)	ND (0.00051)	ND (0.000036)	ND (0.00004)	ND (0.0005)	NA	NA
Benzo(g,h,i)perylene	0.00026	ND (0.00005)	0.000238 SL (0.00005)	ND (0.0005)	NA	ND,H (0.00051)	ND (0.00051)	ND (0.000071)	ND (0.00008)	ND (0.0005)	NA	NA
Chrysene	0.0019	ND (0.00005)	ND,SL (0.025)	ND (0.0005)	NA	ND,H (0.00051)	ND (0.00051)	ND (0.000071)	ND (0.00008)	ND (0.0005)	NA	NA
Fluorene	1.9	0.000282 (0.00005)	0.748 SL (0.025)	0.0003 J (0.0005)	NA	ND,H (0.00051)	0.00018 J (0.00051)	0.000079 B (0.000071)	0.000107 (0.00008)	0.0002 J (0.0005)	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.00005)	0.000144 SL (0.00005)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.00206 (0.00025)	2.41 SL (0.125)	NA	0.328	0.16 H (0.0051)	0.22 (0.0026)	0.0833 B (0.0014)	0.0798 (0.0016)	NA	NA	0.27
Phenanthrene	1.1	0.0002 (0.00005)	2.25 SL (0.025)	0.0001 J (0.0005)	NA	ND,H (0.00051)	ND (0.00051)	0.0000864 B (0.000071)	0.0000884 (0.00008)	0.0002 J (0.0005)	NA	NA
Pyrene	0.13	ND (0.00005)	0.112 SL (0.025)	ND (0.0005)	NA	ND,H (0.00051)	ND (0.00051)	ND (0.000071)	ND (0.00008)	ND (0.0005)	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.002)	ND,SL (0.002)	0.00036 J (0.0005)	NA	0.00032 J (0.00052)	0.00034 J (0.00052)	ND (0.001)	ND (0.001)	ND (0.0005)	NA	NA

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Location	Non-Residential	S-375	S-375	S-375	S-375	S-376	S-376	S-376	S-376	S-376	S-376	S-377
Field Sample ID	Groundwater MSC	75_20200902_410-12999-1	S-375_20210504	S-375_20220404	S-375_20230501	S-376_SL_20191120	S-376_CSIA_20191212	S-376_SL_20200903	SL_20210512_410-39710-1	S-376_SL_20220420_43617	S-376-SL_20230427	S-377-20190117-WG
Sample Date	Used Aquifer	9/2/2020	5/4/2021	4/4/2022	5/1/2023	11/20/2019	12/12/2019	9/3/2020	5/12/2021	4/20/2022	4/27/2023	1/17/2019
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	1.6 (0.05)	0.49 (0.005)	0.844 (0.005)	0.298 (0.0025)	NA	0.0691	0.13 SL (0.01)	0.63 SL (0.005)	0.124 SL (0.0025)	0.146 SL (0.01)	NA
Cumene	3.5	0.04 (0.025)	0.039 (0.025)	0.0494 (0.01)	0.0171 (0.005)	0.024 SL (0.013)	NA	0.018 J,SL (0.05)	0.013 J,SL (0.025)	0.0175 SL (0.005)	0.0277 SL (0.02)	0.0378 (0.005)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.000021)	ND,SL (0.000029)	NA	ND,SL (0.000029)	ND,SL (0.000029)	ND,SL (0.00002)	ND,SL (0.000022)	ND (0.00001)
1,2-Dichloroethane	0.005	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND,SL (0.013)	NA	ND,SL (0.01)	ND,SL (0.005)	ND,SL (0.005)	ND,SL (0.02)	ND (0.005)
Ethyl Benzene	0.7	0.84 (0.005)	0.89 (0.005)	1.04 (0.01)	0.321 (0.005)	NA	0.48	0.93 SL (0.01)	0.49 SL (0.005)	0.869 SL (0.005)	1.39 SL (0.02)	NA
Methyl tert-butyl ether	0.02	0.0025 J (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	0.001 J,SL (0.003)	NA	0.0024 J,SL (0.01)	0.0064 SL (0.005)	ND,SL (0.005)	ND,SL (0.02)	ND (0.005)
Toluene	1	0.42 (0.005)	0.39 (0.005)	0.431 (0.01)	0.122 (0.005)	NA	1.09	3.5 SL (0.1)	1 SL (0.05)	1.78 SL (0.02)	2.45 SL (0.02)	NA
1,2,4-Trimethylbenzene	0.53	0.63 (0.025)	0.63 (0.025)	0.814 (0.02)	0.303 (0.01)	1.6 SL (0.13)	NA	1.1 SL (0.05)	0.53 SL (0.025)	0.927 SL (0.01)	1.61 SL (0.04)	0.284 (0.005)
1,3,5-Trimethylbenzene	0.53	0.21 (0.025)	0.22 (0.025)	0.285 (0.02)	0.103 (0.01)	0.36 SL (0.013)	NA	0.33 SL (0.05)	0.16 SL (0.025)	0.274 SL (0.01)	0.461 SL (0.04)	0.129 (0.005)
Xylenes (total)	10	3.7 (0.3)	4.2 (0.3)	3.74 (0.01)	1.34 (0.005)	NA	4.45	6.4 SL (0.6)	2.8 SL (0.03)	5.1 SL (0.02)	9.57 SL (0.02)	NA
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00051)	ND (0.0005)	ND (0.000071)	0.0000496 J (0.00008)	ND,SL (0.0006)	NA	ND,SL (0.0005)	ND,SL (0.0005)	ND,SL (0.000077)	ND,SL (0.000083)	NA
Benzo(a)anthracene	0.0039	ND (0.00051)	ND (0.0005)	ND (0.000036)	ND (0.00004)	ND,SL (0.0006)	NA	ND,SL (0.0005)	ND,SL (0.0005)	ND,SL (0.000038)	ND,SL (0.000042)	NA
Benzo(a)pyrene	0.0002	ND (0.00051)	ND (0.0005)	ND (0.000036)	ND (0.00004)	ND,SL (0.0006)	NA	ND,SL (0.0005)	ND,SL (0.0005)	ND,SL (0.000038)	ND,SL (0.000042)	NA
Benzo(b)fluoranthene	0.0012	ND (0.00051)	ND (0.0005)	ND (0.000036)	ND (0.00004)	ND,SL (0.0006)	NA	ND,SL (0.0005)	ND,SL (0.0005)	ND,SL (0.000038)	ND,SL (0.000042)	NA
Benzo(g,h,i)perylene	0.00026	ND (0.00051)	ND (0.0005)	ND (0.000071)	ND (0.00008)	ND,SL (0.0006)	NA	ND,SL (0.0005)	ND,SL (0.0005)	ND,SL (0.000077)	ND,SL (0.000083)	NA
Chrysene	0.0019	ND (0.00051)	ND (0.0005)	ND (0.000071)	ND (0.00008)	ND,SL (0.0006)	NA	ND,SL (0.0005)	ND,SL (0.0005)	ND,SL (0.000077)	ND,SL (0.000083)	NA
Fluorene	1.9	0.00023 J (0.00051)	0.00018 J (0.0005)	0.000134 B (0.000071)	0.0000796 J (0.00008)	ND,SL (0.0006)	NA	ND,SL (0.0005)	ND,SL (0.0005)	ND,SL (0.000077)	0.00006 J,SL (0.000083)	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.16 (0.001)	0.19 (0.0025)	0.175 B (0.0036)	0.0389 (0.0008)	NA	0.372	0.3 SL (0.0025)	0.16 SL (0.005)	0.14 SL (0.0038)	0.224 SL (0.017)	NA
Phenanthrene	1.1	0.00012 J (0.00051)	0.00015 J (0.0005)	0.000121 B (0.000071)	0.000127 (0.00008)	ND,SL (0.0006)	NA	ND,SL (0.0005)	ND,SL (0.0005)	0.0000746 J,SL (0.000077)	0.000085 SL (0.000083)	NA
Pyrene	0.13	ND (0.00051)	ND (0.0005)	ND (0.000071)	0.0000464 J (0.00008)	ND,SL (0.0006)	NA	ND,SL (0.0005)	ND,SL (0.0005)	ND,SL (0.000077)	ND,SL (0.000083)	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.00052)	0.00012 J (0.00052)	ND (0.001)	ND (0.001)	0.00043 J,SL (0.0005)	NA	ND,SL (0.00052)	ND,SL (0.00052)	ND,SL (0.001)	ND,SL (0.001)	NA

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

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NA - Not Analyzed
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H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-377	S-377	S-377	S-377	S-377	S-378	S-378	S-378	S-378	S-378	S-378
Field Sample ID	Groundwater MSC	S-377_20190619	S-377_20191105	377_BASE_GRAB_20191210	S-377_CSIA_20191210	S-377_20200903	S-378_20191023	S-378_CSIA_20191209	78_20200902_410-12999-1	78_20210506_410-39001-1	S-378_20220405_42610	S-378_20230501
Sample Date	Used Aquifer	6/19/2019	11/5/2019	12/10/2019	12/10/2019	9/3/2020	10/23/2019	12/10/2019	9/2/2020	5/6/2021	4/5/2022	5/1/2023
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.86 (0.05)	0.077 (0.001)	0.01816 (0.0018)	1.56	1 (0.05)	NA	1.66	3.1 (0.1)	1.5 (0.05)	1.48 (0.02)	1.37 (0.005)
Cumene	3.5	0.028 (0.025)	0.012 (0.005)	0.02603 (0.0006)	NA	0.036 (0.025)	0.05 J (0.05)	NA	0.048 J (0.05)	0.043 (0.025)	0.0539 (0.004)	0.0304 (0.01)
1,2-Dibromoethane	0.00005	ND (0.000028)	ND (0.000029)	ND (0.00271)	NA	ND (0.000029)	ND (0.000028)	NA	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.000021)
1,2-Dichloroethane	0.005	ND (0.025)	ND (0.005)	ND (0.00135)	NA	ND (0.005)	ND (0.05)	NA	ND (0.01)	ND (0.005)	ND (0.004)	ND (0.01)
Ethyl Benzene	0.7	0.11 (0.005)	0.074 (0.001)	0.135 (0.00602)	0.053	0.1 (0.005)	NA	0.848	0.74 (0.01)	0.91 (0.005)	0.572 (0.004)	0.26 (0.01)
Methyl tert-butyl ether	0.02	0.012 (0.005)	ND (0.001)	ND (0.00045)	NA	0.013 (0.005)	ND (0.01)	NA	0.0059 J (0.01)	ND (0.005)	0.0051 (0.004)	ND (0.01)
Toluene	1	0.24 (0.005)	0.044 (0.001)	0.00857 (0.00045)	0.319	0.26 (0.005)	NA	0.36	0.32 (0.01)	0.27 (0.005)	0.211 (0.004)	0.109 (0.01)
1,2,4-Trimethylbenzene	0.53	0.089 (0.025)	0.17 (0.05)	0.1819 (0.00602)	NA	0.093 (0.025)	0.94 (0.05)	NA	0.51 (0.05)	0.57 (0.025)	0.375 (0.008)	0.171 (0.02)
1,3,5-Trimethylbenzene	0.53	0.077 (0.025)	0.12 (0.005)	0.09715 (0.006)	NA	0.11 (0.025)	0.33 (0.05)	NA	0.19 (0.05)	0.22 (0.025)	0.165 (0.008)	0.0917 (0.02)
Xylenes (total)	10	0.41 (0.025)	0.35 (0.003)	0.25455 J (0.00605)	0.384	0.6 (0.03)	NA	0.66	0.73 (0.06)	0.73 (0.03)	0.51 (0.004)	0.167 (0.01)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.0005)	ND (0.0006)	NA	NA	ND (0.0005)	ND (0.0006)	NA	ND (0.00051)	ND (0.00052)	0.0000999 B (0.000087)	0.0000497 J (0.000083)
Benzo(a)anthracene	0.0039	ND (0.0005)	ND (0.0006)	NA	NA	ND (0.0005)	ND (0.0006)	NA	ND (0.00051)	ND (0.00052)	ND (0.000043)	ND (0.000042)
Benzo(a)pyrene	0.0002	ND (0.0005)	ND (0.0006)	NA	NA	ND (0.0005)	ND (0.0006)	NA	ND (0.00051)	ND (0.00052)	ND (0.000043)	ND (0.000042)
Benzo(b)fluoranthene	0.0012	ND (0.0005)	ND (0.0006)	NA	NA	ND (0.0005)	ND (0.0006)	NA	ND (0.00051)	ND (0.00052)	ND (0.000043)	ND (0.000042)
Benzo(g,h,i)perylene	0.00026	ND (0.0005)	ND (0.0006)	NA	NA	ND (0.0005)	ND (0.0006)	NA	ND (0.00051)	ND (0.00052)	ND (0.000087)	ND (0.000083)
Chrysene	0.0019	ND (0.0005)	ND (0.0006)	NA	NA	ND (0.0005)	ND (0.0006)	NA	ND (0.00051)	ND (0.00052)	ND (0.000087)	ND (0.000083)
Fluorene	1.9	ND (0.0005)	ND (0.0006)	NA	NA	ND (0.0005)	ND (0.0006)	NA	ND (0.00051)	0.00013 J (0.00052)	0.000134 B (0.000087)	0.000062 J (0.000083)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.033 (0.0005)	0.034 (0.0006)	0.05816 (0.00151)	0.0903 J	0.044 (0.0005)	NA	0.271	0.13 (0.001)	0.22 (0.0026)	0.0832 (0.0017)	0.0605 (0.0017)
Phenanthrene	1.1	ND (0.0005)	ND (0.0006)	NA	NA	ND (0.0005)	ND (0.0006)	NA	ND (0.00051)	ND (0.00052)	0.000111 B (0.000087)	0.0000616 J (0.000083)
Pyrene	0.13	ND (0.0005)	ND (0.0006)	NA	NA	ND (0.0005)	ND (0.0006)	NA	ND (0.00051)	ND (0.00052)	ND (0.000087)	ND (0.000083)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.003)	0.000073 J (0.0005)	NA	NA	ND (0.00052)	ND (0.0005)	NA	ND (0.00052)	ND (0.00052)	ND (0.001)	ND (0.001)

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-379	S-38	S-38	S-38	S-38	S-38	S-38	S-38	S-38	S-38	S-38
Field Sample ID	Groundwater MSC	S-379_06_12_2013	S-38~12/2/1999	S-38~11/16/2000	S-38~11/14/2001	S-38~11/12/2002	S-38~11/13/2003	S38-050305	S-38_11_8_2005	S-38-20160816-WG	S-38-20161010-WG	38_20200902_410-12999-1
Sample Date	Used Aquifer	6/12/2013	12/2/1999	11/16/2000	11/14/2001	11/12/2002	11/13/2003	5/3/2005	11/8/2005	8/16/2016	10/10/2016	9/2/2020
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.0199 (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.13 (0.005)
Cumene	3.5	0.0034 (0.002)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.013 J (0.025)
1,2-Dibromoethane	0.00005	ND (0.00002)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.000029)
1,2-Dichloroethane	0.005	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.005)
Ethyl Benzene	0.7	0.0015 (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.097 (0.005)
Methyl tert-butyl ether	0.02	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.005)
Toluene	1	0.00054 J (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.17 (0.005)
1,2,4-Trimethylbenzene	0.53	0.00053 J (0.002)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.013 J (0.025)
1,3,5-Trimethylbenzene	0.53	0.0039 (0.002)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.008 J (0.025)
Xylenes (total)	10	0.0013 (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.11 (0.03)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.0005)
Benzo(a)anthracene	0.0039	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.0005)
Benzo(a)pyrene	0.0002	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.0005)
Benzo(b)fluoranthene	0.0012	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.0005)
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.0005)
Chrysene	0.0019	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.0005)
Fluorene	1.9	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.0005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	ND (0.01)	0.0023	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA
Naphthalene	0.1	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.02 (0.0005)
Phenanthrene	1.1	0.000199 (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.0005)
Pyrene	0.13	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.0005)
Metals												
Lead	0.005	NA	0.583	0.075	0.14	NA	NA	ND (0.001)	ND (0.01)	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.003)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00052)

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-38	S-38	S-38	S-38	S-380	S-380	S-380	S-380	S-380	S-381	S-381
Field Sample ID	Groundwater MSC	S-38_20210503	DUP-5_20210503	S-38_20220328	S-38_20230426	S-380-20160812-WG	S-380-20161010-WG	S-380-20161010-WG-DUP	S-380-20170517	S-380_20180626	S-381_06_14_2013	S-381-20160817-WG
Sample Date	Used Aquifer	5/3/2021	5/3/2021	3/28/2022	4/26/2023	8/12/2016	10/10/2016	10/10/2016	5/17/2017	6/26/2018	6/14/2013	8/17/2016
Comments	(TDS ≤ 2500)		Field Duplicate					Field Duplicate				
Volatile Organic Compounds												
Benzene	0.005	0.0055 (0.001)	0.0075 (0.001)	0.0023 (0.0005)	0.0099 (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.296 (0.01)	0.0103 (0.001)
Cumene	3.5	0.00066 J (0.005)	0.0013 J (0.005)	0.0012 (0.001)	0.0082 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	0.0606 (0.02)	0.00415 (0.001)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000028)	ND (0.00002)	ND (0.00002)	ND (0.00001)	ND (0.00001)	ND (0.00001)	ND (0.000029)	ND (0.00001)	ND (0.00002)	ND (0.00001)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.001)
Ethyl Benzene	0.7	0.0016 (0.001)	0.0038 (0.001)	0.003 (0.001)	0.0174 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.554 (0.01)	0.0652 (0.001)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.026 (0.01)	ND (0.001)
Toluene	1	0.0025 (0.001)	0.005 (0.001)	0.0051 (0.001)	0.0234 (0.001)	0.0147 (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	1.77 (0.01)	0.109 (0.005)
1,2,4-Trimethylbenzene	0.53	ND (0.005)	0.0013 J (0.005)	ND (0.002)	0.0035 (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	1.13 (0.02)	0.088 (0.001)
1,3,5-Trimethylbenzene	0.53	ND (0.005)	0.0005 J (0.005)	ND (0.002)	0.0023 (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	0.374 (0.02)	0.0216 (0.001)
Xylenes (total)	10	0.0024 J (0.006)	0.0057 J (0.006)	0.004 (0.001)	0.0246 (0.001)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.001)	ND (0.003)	3.6 (0.01)	0.217 (0.003)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00052)	ND (0.00051)	ND (0.000074)	ND (0.000083)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	ND (0.00005)	0.000898 (0.0001)	0.000173 (0.0001)
Benzo(a)anthracene	0.0039	ND (0.00052)	ND (0.00051)	ND (0.000037)	ND (0.000042)	0.0000689 B (0.00005)	ND (0.00005)	ND (0.00005)	0.0002 J (0.0005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(a)pyrene	0.0002	ND (0.00052)	ND (0.00051)	ND (0.000037)	ND (0.000042)	0.0000617 (0.00005)	ND (0.00005)	ND (0.00005)	0.0002 J (0.0005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(b)fluoranthene	0.0012	ND (0.00052)	ND (0.00051)	0.0000293 J (0.000037)	ND (0.000042)	0.0000939 (0.00005)	ND (0.00005)	ND (0.00005)	0.0003 J (0.0005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	ND (0.00052)	ND (0.00051)	ND (0.000074)	ND (0.000083)	0.0000561 (0.00005)	ND (0.00005)	ND (0.00005)	0.0002 J (0.0005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Chrysene	0.0019	ND (0.00052)	ND (0.00051)	ND (0.000074)	ND (0.000083)	0.0000698 (0.00005)	ND (0.00005)	ND (0.00005)	0.0003 J (0.0005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Fluorene	1.9	ND (0.00052)	ND (0.00051)	0.0000562 J (0.000074)	ND (0.000083)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	ND (0.00005)	0.00973 (0.002)	0.00125 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	NA	ND (0.0001)
Naphthalene	0.1	0.00025 J (0.00052)	0.0005 J (0.00051)	0.000328 (0.000074)	0.00162 (0.000083)	ND (0.00025)	ND (0.00025)	ND (0.00025)	ND (0.0005)	ND (0.00025)	0.136 (0.002)	0.0215 (0.0005)
Phenanthrene	1.1	ND (0.00052)	ND (0.00051)	0.000131 (0.000074)	ND (0.000083)	0.0000745 B (0.00005)	ND (0.00005)	0.0000609 (0.00005)	0.0003 J (0.0005)	ND (0.00005)	0.0137 (0.0002)	0.00164 (0.0001)
Pyrene	0.13	ND (0.00052)	ND (0.00051)	0.000065 J (0.000074)	ND (0.000083)	0.000126 (0.00005)	ND (0.00005)	0.0000809 (0.00005)	0.0004 J (0.0005)	0.0000625 (0.00005)	0.000677 (0.0001)	0.000129 (0.0001)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.00052)	0.000088 J (0.00052)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.002)	0.00016 J (0.001)	ND (0.002)	ND (0.003)	ND (0.002)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-381	S-385	S-385	S-386	S-386	S-386	S-387	S-387	S-387	S-39	S-39
Field Sample ID	Groundwater MSC	S-381-20161013-WG	AOI3_S-385_082613	AOI3_S-385_121415	AOI3_S-386_082613	AOI3_S-386_061015	AOI3_S-386_121715	AOI3_S-387_082613	AOI3_S-387_061515	AOI3_S-387_121515	S-39~11/16/2000	S-39~11/14/2001
Sample Date	Used Aquifer	10/13/2016	8/26/2013	12/14/2015	8/26/2013	6/10/2015	12/17/2015	8/26/2013	6/15/2015	12/15/2015	11/16/2000	11/14/2001
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.0194 (0.001)	0.00049 J (0.001)	ND (0.0005)	ND (0.001)	0.0025 (0.001)	0.00024 J (0.0005)	ND (0.001)	ND (0.001)	ND (0.0005)	NA	NA
Cumene	3.5	0.00697 (0.001)	0.0394 (0.002)	0.0054 (0.001)	ND (0.002)	ND (0.001)	0.00063 J (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	NA	NA
1,2-Dibromoethane	0.00005	ND (0.00001)	ND (0.00002)	ND (0.000019)	ND (0.00002)	0.00018 (0.00004)	ND (0.000036)	ND (0.00002)	0.000086 (0.00004)	ND (0.00002)	NA	NA
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA
Ethyl Benzene	0.7	0.101 (0.001)	0.0471 (0.001)	0.001 (0.001)	ND (0.001)	0.00088 J (0.001)	0.00028 J (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA
Methyl tert-butyl ether	0.02	ND (0.001)	0.0218 (0.001)	0.0084 (0.001)	0.0022 (0.001)	0.0012 (0.001)	0.0016 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA
Toluene	1	0.172 (0.005)	0.001 (0.001)	0.00028 J (0.001)	ND (0.001)	0.0052 (0.001)	0.00039 J (0.001)	ND (0.001)	0.0006 J (0.001)	ND (0.001)	NA	NA
1,2,4-Trimethylbenzene	0.53	0.15 (0.001)	0.0213 (0.002)	ND (0.002)	ND (0.002)	0.0013 (0.001)	0.0011 J (0.002)	ND (0.002)	ND (0.001)	ND (0.002)	NA	NA
1,3,5-Trimethylbenzene	0.53	0.0408 (0.001)	0.0192 (0.002)	0.0008 J (0.002)	ND (0.002)	0.00031 J (0.001)	0.00044 J (0.002)	ND (0.002)	ND (0.001)	ND (0.002)	NA	NA
Xylenes (total)	10	0.352 (0.003)	0.0209 (0.001)	0.00069 J (0.001)	ND (0.001)	0.0053 (0.003)	0.0011 (0.001)	ND (0.001)	ND (0.003)	ND (0.001)	NA	NA
Semivolatile Organic Compounds												
Anthracene	0.066	0.000381 (0.0001)	0.00025 (0.0001)	0.000206 (0.0001)	0.000151 (0.0001)	0.00003 J (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.00011)	ND (0.0001)	NA	NA
Benzo(a)anthracene	0.0039	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.0001)	ND (0.00011)	ND (0.00005)	NA	NA
Benzo(a)pyrene	0.0002	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.0001)	ND (0.00011)	ND (0.00005)	NA	NA
Benzo(b)fluoranthene	0.0012	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.00011)	ND (0.0001)	NA	NA
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.00011)	ND (0.0001)	NA	NA
Chrysene	0.0019	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.00011)	ND (0.0001)	NA	NA
Fluorene	1.9	0.00245 (0.0001)	0.00118 (0.0001)	0.000337 (0.0001)	0.00257 (0.0001)	0.00043 (0.0001)	0.000653 (0.0001)	ND (0.0001)	ND (0.00011)	ND (0.0001)	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.01)
Naphthalene	0.1	0.0335 (0.0005)	0.00461 (0.0001)	0.000156 (0.0001)	ND (0.0001)	0.00048 (0.0001)	ND (0.0001)	ND (0.0001)	0.000051 J (0.00011)	ND (0.0001)	NA	NA
Phenanthrene	1.1	0.00352 (0.0001)	0.00116 (0.0001)	ND (0.0001)	0.00167 (0.0001)	0.00024 (0.0001)	0.000172 (0.0001)	ND (0.0001)	ND (0.00011)	ND (0.0001)	NA	NA
Pyrene	0.13	0.000382 (0.0001)	0.000152 (0.0001)	0.000109 (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	0.000028 J (0.00011)	ND (0.0001)	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.01)	NA
Lead (Dissolved)	0.005	ND (0.002)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.005)	ND (0.003)	ND (0.003)	ND (0.005)	ND (0.003)	NA	NA

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
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TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-39	S-39	S-39	S-39	S-39	S-39	S-39	S-39	S-39	S-39	S-40
Field Sample ID	Groundwater MSC	S-39~11/12/2002	S39-050305	S-39_11_8_2005	S-39~11/29/2006	S-39~12/6/2007	S-39	S-39_20150518	S-39-20160512	S-39-20160810-WG	S-39-20161011-WG	S-40~12/2/1999
Sample Date	Used Aquifer	11/12/2002	5/3/2005	11/8/2005	11/29/2006	12/6/2007	5/19/2014	5/18/2015	5/12/2016	8/10/2016	10/11/2016	12/2/1999
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	NA	NA	NA	NA	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA
Cumene	3.5	NA	NA	NA	NA	NA	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	NA
1,2-Dibromoethane	0.00005	NA	NA	NA	NA	NA	ND (0.00002)	ND (0.000029)	ND (0.000029)	ND (0.00001)	ND (0.00001)	NA
1,2-Dichloroethane	0.005	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA
Ethyl Benzene	0.7	NA	NA	NA	NA	NA	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA
Methyl tert-butyl ether	0.02	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA
Toluene	1	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	NA
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	NA
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	NA
Xylenes (total)	10	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.003)	NA
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	NA
Benzo(a)anthracene	0.0039	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	NA
Benzo(a)pyrene	0.0002	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	NA
Benzo(b)fluoranthene	0.0012	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	NA
Chrysene	0.0019	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	NA
Fluorene	1.9	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	NA
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.01)	NA	ND (0.0001)	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA
Naphthalene	0.1	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00025)	ND (0.00025)	NA
Phenanthrene	1.1	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	NA
Pyrene	0.13	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	NA
Metals												
Lead	0.005	NA	ND (0.001)	ND (0.01)	0.008	ND	NA	NA	NA	NA	NA	0.099
Lead (Dissolved)	0.005	NA	NA	NA	NA	NA	0.0018 J (0.003)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.002)	NA

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-40	S-40	S-40	S-40	S-40	S-40	S-40	S-40	S-40	S-40	S-40
Field Sample ID	Groundwater MSC	S-40~11/16/2000	S-40~11/14/2001	S-40~11/12/2002	S-40-1	S40-050305	S-40_11_8_2005	S-40~11/28/2011	S-40_040813	S-40_06_17_2013	S-40_20150518	S-40-20160519
Sample Date	Used Aquifer	11/16/2000	11/14/2001	11/12/2002	11/13/2003	5/3/2005	11/8/2005	11/28/2011	4/8/2013	6/17/2013	5/18/2015	5/19/2016
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	NA	NA	NA	NA	NA	ND (0.0005)	ND (0.001)	0.00058 J (0.001)	0.01 (0.001)	0.018 (0.001)
Cumene	3.5	NA	NA	NA	NA	NA	NA	0.0006 J	ND (0.002)	0.0013 J (0.002)	0.006 (0.002)	0.016 (0.002)
1,2-Dibromoethane	0.00005	NA	NA	NA	NA	NA	NA	ND (0.0000099)	ND (0.00002)	ND (0.00002)	ND (0.000029)	ND (0.000029)
1,2-Dichloroethane	0.005	NA	NA	NA	NA	NA	NA	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	NA	NA	NA	NA	NA	NA	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	0.001 (0.001)
Methyl tert-butyl ether	0.02	NA	NA	NA	NA	NA	NA	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Toluene	1	NA	NA	NA	NA	NA	NA	0.002	ND (0.001)	ND (0.001)	0.002 (0.001)	0.004 (0.001)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	NA	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	NA	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
Xylenes (total)	10	NA	NA	NA	NA	NA	NA	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	0.001 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	NA	NA	NA	NA	ND (0.0001)	0.000307 (0.0001)	0.0002 J (0.0005)	0.0005 J (0.0005)
Benzo(a)anthracene	0.0039	NA	NA	NA	NA	NA	ND (0.0001)	NA	ND (0.0001)	0.000236 (0.0001)	ND (0.0005)	0.0002 J (0.0005)
Benzo(a)pyrene	0.0002	NA	NA	NA	NA	NA	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)
Benzo(b)fluoranthene	0.0012	NA	NA	NA	NA	NA	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	NA	NA	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)
Chrysene	0.0019	NA	NA	NA	NA	NA	NA	0.006	ND (0.0001)	0.00031 (0.0001)	ND (0.0005)	0.0002 J (0.0005)
Fluorene	1.9	NA	NA	NA	NA	NA	NA	0.0067	0.000135 (0.0001)	0.000586 (0.0001)	0.0004 J (0.0005)	0.001 (0.0005)
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.01)	ND (0.01)	ND (0.1)	ND (0.002)	NA	ND (0.0001)	NA	NA	NA	NA	NA
Naphthalene	0.1	NA	NA	NA	NA	NA	NA	ND (0.0096)	ND (0.0001)	ND (0.0001)	0.0006 (0.0005)	ND (0.0005)
Phenanthrene	1.1	NA	NA	NA	NA	NA	NA	0.0092	0.000255 (0.0001)	0.00127 (0.0001)	0.0006 (0.0005)	0.002 (0.0005)
Pyrene	0.13	NA	NA	NA	NA	NA	NA	ND (0.000096)	ND (0.0001)	0.000418 (0.0001)	0.0002 J (0.0005)	0.0004 J (0.0005)
Metals												
Lead	0.005	0.057	0.029	NA	NA	ND (0.001)	ND (0.01)	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.003)	ND (0.003)	0.00019 J (0.001)	ND (0.001)

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XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-407	S-407	S-408	S-408	S-41	S-41	S-41	S-41	S-41	S-41	S-41
Field Sample ID	Groundwater MSC	AOI3_S-407_121415	S-407-20160407-WG	AOI3_S-408_121615	S-408-20160407-WG	S41-042205	S-41_06/23/2009	S-41-20141208	S-41_20150518	S-41-20160510	S-41-20170516	S-41_20180621
Sample Date	Used Aquifer	12/14/2015	4/7/2016	12/16/2015	4/7/2016	4/22/2005	6/23/2009	12/8/2014	5/18/2015	5/10/2016	5/16/2017	6/21/2018
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	ND (0.0005)	ND (0.001)	0.0016 (0.0005)	ND (0.001)	NA	NA	0.00093 (0.0005)	0.006 (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Cumene	3.5	0.126 (0.001)	0.132 (0.001)	0.0021 (0.001)	ND (0.001)	NA	NA	0.091 (0.001)	0.02 (0.002)	0.028 (0.01)	0.07 (0.01)	0.106 (0.001)
1,2-Dibromoethane	0.00005	ND (0.000019)	ND (0.00004)	ND (0.000019)	ND (0.00004)	NA	NA	ND (0.00002)	ND (0.000029)	ND (0.000029)	ND (0.000029)	ND (0.00001)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Ethyl Benzene	0.7	0.0005 J (0.001)	ND (0.001)	0.00032 J (0.001)	ND (0.001)	NA	NA	0.0016 (0.001)	0.0009 J (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Methyl tert-butyl ether	0.02	0.0025 (0.001)	0.0043 (0.001)	0.0063 (0.001)	0.002 (0.001)	NA	NA	0.0065 (0.001)	0.005 (0.001)	0.006 (0.005)	0.004 J (0.005)	ND (0.001)
Toluene	1	ND (0.001)	ND (0.001)	0.00027 J (0.001)	ND (0.001)	NA	NA	0.0021 (0.001)	0.002 (0.001)	ND (0.005)	ND (0.005)	0.00148 (0.001)
1,2,4-Trimethylbenzene	0.53	ND (0.002)	ND (0.001)	0.011 (0.002)	ND (0.001)	NA	NA	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.01)	ND (0.001)
1,3,5-Trimethylbenzene	0.53	ND (0.002)	ND (0.001)	0.0053 (0.002)	ND (0.001)	NA	NA	0.00023 J (0.002)	ND (0.002)	ND (0.01)	ND (0.01)	ND (0.001)
Xylenes (total)	10	0.00038 J (0.001)	ND (0.003)	0.0035 (0.001)	ND (0.003)	NA	NA	0.0013 (0.001)	0.003 (0.001)	ND (0.005)	ND (0.005)	ND (0.003)
Semivolatile Organic Compounds												
Anthracene	0.066	0.000176 (0.0001)	0.00039 (0.0001)	ND (0.0001)	0.000027 J (0.0001)	NA	NA	0.000192 (0.0001)	0.0001 J (0.0005)	ND (0.0005)	0.0001 J (0.0005)	0.000178 (0.00005)
Benzo(a)anthracene	0.0039	ND (0.00005)	ND (0.0001)	ND (0.00005)	ND (0.0001)	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.00005)
Benzo(a)pyrene	0.0002	ND (0.00005)	ND (0.0001)	ND (0.00005)	0.0000083 J (0.0001)	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.00005)
Benzo(b)fluoranthene	0.0012	ND (0.0001)	ND (0.0001)	ND (0.0001)	0.000024 J (0.0001)	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.00005)
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.00005)
Chrysene	0.0019	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.00005)
Fluorene	1.9	0.00121 (0.0001)	0.0029 (0.0001)	ND (0.0001)	0.000035 J (0.0001)	NA	NA	0.00221 (0.0001)	0.002 (0.0005)	0.002 (0.0005)	0.0007 (0.0005)	0.00249 (0.00005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	ND (0.0001)	0.0017 (0.0001)	ND (0.0001)	0.00021 (0.0001)	NA	NA	ND (0.0001)	0.001 (0.0005)	0.002 (0.0005)	0.0008 (0.0005)	0.00138 (0.00025)
Phenanthrene	1.1	0.000477 (0.0001)	0.002 (0.0001)	ND (0.0001)	0.000025 J (0.0001)	NA	NA	0.00177 (0.0001)	0.001 (0.0005)	ND (0.0005)	0.0003 J (0.0005)	0.000314 (0.00005)
Pyrene	0.13	ND (0.0001)	0.00009 J (0.0001)	ND (0.0001)	0.000042 J (0.0001)	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000519 (0.00005)
Metals												
Lead	0.005	NA	NA	NA	NA	ND (0.001)	ND (0.001)	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.003)	ND (0.005)	ND (0.003)	ND (0.005)	NA	NA	0.0022 J (0.003)	0.0005 J (0.001)	ND (0.001)	0.00015 J (0.001)	ND (0.002)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-415	S-415	S-416	S-416	S-43	S-43	S-43	S-43	S-43	S-43	S-43
Field Sample ID	Groundwater MSC	AOI3_S-415_121715	S-415_20230427	S-416-20160817-WG	S-416-20161012-WG	S-43~11/16/2000	S-43~11/14/2001	S-43~11/12/2002	S-43~11/13/2003	S43-042105	S43-050205	S-43_11_8_2005
Sample Date	Used Aquifer	12/17/2015	4/27/2023	8/17/2016	10/12/2016	11/16/2000	11/14/2001	11/12/2002	11/13/2003	4/21/2005	5/2/2005	11/8/2005
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.694 (0.005)	0.0011 (0.0005)	0.00722 (0.001)	ND (0.001)	NA	NA	NA	NA	NA	NA	NA
Cumene	3.5	0.0445 (0.001)	0.008 (0.001)	0.00388 (0.001)	0.00499 (0.001)	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	0.00005	ND (0.00002)	ND (0.000021)	ND (0.00001)	ND (0.00001)	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	0.7	0.0015 (0.001)	ND (0.001)	0.00141 (0.001)	0.00125 (0.001)	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	0.02	0.0039 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	NA	NA	NA	NA
Toluene	1	0.29 (0.01)	ND (0.001)	ND (0.005)	ND (0.005)	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	0.53	0.00023 J (0.002)	ND (0.002)	0.00203 (0.001)	0.00134 (0.001)	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	0.53	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	10	0.0016 (0.001)	ND (0.001)	ND (0.003)	ND (0.003)	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	0.066	0.000204 (0.0001)	0.0000584 J (0.00008)	0.000083 (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	0.0039	ND (0.00005)	ND (0.00004)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.0002	ND (0.00005)	ND (0.00004)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	0.0012	ND (0.0001)	ND (0.00004)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	ND (0.00008)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA
Chrysene	0.0019	ND (0.0001)	ND (0.00008)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA
Fluorene	1.9	0.00151 (0.0001)	0.00038 (0.00008)	0.000225 (0.00005)	0.00011 (0.00005)	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	ND (0.00005)	ND (0.00005)	ND (0.01)	ND (0.01)	ND (0.1)	0.0028	NA	NA	ND (0.0001)
Naphthalene	0.1	ND (0.0001)	ND (0.00008)	0.00129 (0.00025)	0.000874 (0.00025)	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	1.1	0.000186 (0.0001)	0.000163 (0.00008)	0.000156 (0.00005)	0.0000621 B (0.00005)	NA	NA	NA	NA	NA	NA	NA
Pyrene	0.13	ND (0.0001)	ND (0.00008)	0.0000663 (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	0.0134	ND (0.001)	ND (0.001)	ND (0.01)
Lead (Dissolved)	0.005	ND (0.003)	ND (0.001)	ND (0.002)	ND (0.002)	NA	NA	NA	NA	NA	NA	NA

Notes:

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3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-43	S-43	S-43	S-43	S-43	S-43	S-43	S-44	S-44	S-44	S-44
Field Sample ID	Groundwater MSC	S-43_06/23/2009	S-43_040213	S-43~4/2/2013	S-43~JB67921	S-43-20141212	S-43_20150518	S-43-20160510	S44-042105	S-44_06/23/2009	S-44_20191029	S-44_BASE_GRAB_20191205
Sample Date	Used Aquifer	6/23/2009	4/2/2013	4/2/2013	5/27/2014	12/12/2014	5/18/2015	5/10/2016	4/21/2005	6/23/2009	10/29/2019	12/5/2019
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	0.371 (0.0025)	NA	0.0443 (0.0005)	0.0366 (0.0005)	0.05 (0.001)	0.011 (0.001)	NA	NA	NA	0.11557 (0.0018)
Cumene	3.5	NA	0.0317 (0.005)	NA	0.0554 (0.001)	0.0692 (0.001)	0.068 (0.002)	0.056 (0.002)	NA	NA	NA	0.01913 (0.0006)
1,2-Dibromoethane	0.00005	NA	ND (0.00002)	NA	ND (0.00002)	ND (0.00002)	ND (0.000029)	ND (0.000029)	NA	NA	NA	ND (0.00271)
1,2-Dichloroethane	0.005	NA	ND (0.0025)	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	ND (0.00135)
Ethyl Benzene	0.7	NA	0.222 (0.0025)	NA	0.0137 (0.001)	0.033 (0.001)	0.052 (0.001)	0.003 (0.001)	NA	NA	NA	0.00172 J (0.0006)
Methyl tert-butyl ether	0.02	NA	0.0027 (0.0025)	NA	0.0045 (0.001)	0.0044 (0.001)	0.005 (0.001)	0.005 (0.001)	NA	NA	NA	0.08115 (0.00045)
Toluene	1	NA	0.0527 (0.0025)	NA	0.0074 (0.001)	0.0152 (0.001)	0.021 (0.001)	0.007 (0.001)	NA	NA	NA	0.00826 (0.00045)
1,2,4-Trimethylbenzene	0.53	NA	0.0745 (0.005)	NA	0.0029 (0.002)	0.0066 (0.002)	0.019 (0.002)	ND (0.002)	NA	NA	NA	ND (0.0006)
1,3,5-Trimethylbenzene	0.53	NA	0.0445 (0.005)	NA	0.0018 J (0.002)	0.0052 (0.002)	0.014 (0.002)	ND (0.002)	NA	NA	NA	0.00179 J (0.0006)
Xylenes (total)	10	NA	0.0789 (0.0025)	NA	0.0095 (0.001)	0.0209 (0.001)	0.034 (0.001)	0.007 (0.001)	NA	NA	NA	0.01511 J (0.0006)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	0.0002 J (0.0005)	ND (0.0005)	NA	NA	ND (0.0007)	NA
Benzo(a)anthracene	0.0039	NA	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	0.0003 J (0.0005)	ND (0.0005)	NA	NA	ND (0.0007)	NA
Benzo(a)pyrene	0.0002	NA	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	0.0003 J (0.0005)	ND (0.0005)	NA	NA	ND (0.0007)	NA
Benzo(b)fluoranthene	0.0012	NA	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	0.0005 J (0.0005)	ND (0.0005)	NA	NA	ND (0.0007)	NA
Benzo(g,h,i)perylene	0.00026	NA	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	0.0003 J (0.0005)	ND (0.0005)	NA	NA	ND (0.0007)	NA
Chrysene	0.0019	NA	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	0.0004 J (0.0005)	ND (0.0005)	NA	NA	ND (0.0007)	NA
Fluorene	1.9	NA	0.000668 (0.0001)	NA	0.00114 (0.0001)	0.00327 (0.0001)	0.005 (0.0005)	0.004 (0.0005)	NA	NA	ND (0.0007)	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	NA	0.0282 (0.001)	NA	0.00166 (0.0001)	0.00752 (0.001)	0.029 (0.0005)	0.001 (0.0005)	NA	NA	NA	ND (0.00151)
Phenanthrene	1.1	NA	0.00033 (0.0001)	NA	0.00037 (0.0001)	0.00156 (0.0001)	0.005 (0.0005)	0.002 (0.0005)	NA	NA	ND (0.0007)	NA
Pyrene	0.13	NA	ND (0.0001)	NA	ND (0.0001)	0.000122 (0.0001)	0.0006 (0.0005)	ND (0.0005)	NA	NA	ND (0.0007)	NA
Metals												
Lead	0.005	ND (0.001)	NA	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	NA	NA
Lead (Dissolved)	0.005	NA	NA	ND (0.001)	0.0015 J (0.003)	ND (0.003)	0.00011 J (0.001)	ND (0.001)	NA	NA	0.00014 J (0.0005)	NA

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-44	S-44	S-44	S-44	S-440	S-440	S-440	S-440	S-440	S-440_CD	S-440_CD
Field Sample ID	Groundwater MSC	S-44_20210505_410-38735-1	DUP-6_20210505	S-44_20220330_42387	S-44_20230503	S-440_20200831	40_20210512_410-39710-1	S-440_20220405_42610	DUP-4_20220405	S-440_20230501	CD-15-W-25.0-20200616	CD-15-W-40.0-20200617
Sample Date	Used Aquifer	5/5/2021	5/5/2021	3/30/2022	5/3/2023	8/31/2020	5/12/2021	4/5/2022	4/5/2022	5/1/2023	6/16/2020	6/17/2020
Comments	(TDS ≤ 2500)		Field Duplicate						Field Duplicate			
Volatile Organic Compounds												
Benzene	0.005	0.15 (0.005)	0.15 (0.005)	0.136 (0.0013)	0.12 (0.0005)	ND (0.001)	0.00094 J (0.001)	0.0048 (0.0005)	0.0081 (0.0005)	ND (0.0005)	ND (0.001)	ND (0.001)
Cumene	3.5	0.031 (0.025)	0.024 J (0.025)	0.0184 (0.0025)	0.0206 (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.000021)	ND (0.000029)	ND (0.000028)	ND (0.00002)	ND (0.00002)	ND (0.000022)	ND (0.000029)	0.000036 (0.000028)
1,2-Dichloroethane	0.005	ND (0.005)	ND (0.005)	ND (0.0025)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.0031 J (0.005)	0.0027 J (0.005)	0.0017 J (0.0025)	0.0018 (0.001)	ND (0.001)	ND (0.001)	0.00067 J (0.001)	0.0012 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Methyl tert-butyl ether	0.02	0.054 (0.005)	0.054 (0.005)	0.066 (0.0025)	0.0578 (0.001)	0.0053 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0064 (0.001)	0.049 (0.001)
Toluene	1	0.0088 (0.005)	0.0079 (0.005)	0.0061 (0.0025)	0.007 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2,4-Trimethylbenzene	0.53	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.002)	ND (0.005)	ND (0.005)	0.0024 (0.002)	0.0036 (0.002)	ND (0.002)	ND (0.005)	ND (0.005)
1,3,5-Trimethylbenzene	0.53	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.002)	ND (0.005)	ND (0.005)	0.0011 J (0.002)	0.0015 J (0.002)	ND (0.002)	ND (0.005)	ND (0.005)
Xylenes (total)	10	0.012 J (0.03)	0.0098 J (0.03)	0.0099 (0.0025)	0.0133 (0.001)	ND (0.006)	ND (0.006)	0.0047 (0.001)	0.0078 (0.001)	ND (0.001)	ND (0.006)	ND (0.006)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00058)	ND (0.00059)	0.000061 J (0.000082)	0.00023 (0.00008)	ND (0.00051)	ND (0.0005)	ND (0.000083)	ND (0.000087)	ND (0.00008)	NA	NA
Benzo(a)anthracene	0.0039	ND (0.00058)	ND (0.00059)	ND (0.000041)	0.0000431 (0.00004)	ND (0.00051)	ND (0.0005)	ND (0.000042)	ND (0.000043)	ND (0.00004)	NA	NA
Benzo(a)pyrene	0.0002	ND (0.00058)	ND (0.00059)	ND (0.000041)	ND (0.00004)	ND (0.00051)	ND (0.0005)	ND (0.000042)	ND (0.000043)	ND (0.00004)	NA	NA
Benzo(b)fluoranthene	0.0012	ND (0.00058)	ND (0.00059)	ND (0.000041)	0.0000276 J (0.00004)	ND (0.00051)	ND (0.0005)	ND (0.000042)	ND (0.000043)	ND (0.00004)	NA	NA
Benzo(g,h,i)perylene	0.00026	ND (0.00058)	ND (0.00059)	ND (0.000082)	ND (0.00008)	ND (0.00051)	ND (0.0005)	ND (0.000083)	ND (0.000087)	ND (0.00008)	NA	NA
Chrysene	0.0019	ND (0.00058)	ND (0.00059)	ND (0.000082)	0.0000773 J (0.00008)	ND (0.00051)	ND (0.0005)	ND (0.000083)	ND (0.000087)	ND (0.00008)	NA	NA
Fluorene	1.9	0.00015 J (0.00058)	0.0002 J (0.00059)	ND (0.000082)	0.0011 (0.00008)	ND (0.00051)	ND (0.0005)	0.0000657 JB (0.000083)	0.0000575 JB (0.000087)	ND (0.00008)	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	ND (0.00058)	ND (0.00059)	0.00016 B (0.000082)	0.129 B (0.0032)	ND (0.00051)	ND (0.0005)	0.000134 B (0.000083)	0.000199 B (0.000087)	0.0000644 J (0.00008)	ND (0.005)	ND (0.005)
Phenanthrene	1.1	ND (0.00058)	ND (0.00059)	ND (0.000082)	0.0011 (0.00008)	ND (0.00051)	ND (0.0005)	0.0000786 JB (0.000083)	0.0000851 JB (0.000087)	0.0000497 J (0.00008)	NA	NA
Pyrene	0.13	ND (0.00058)	ND (0.00059)	ND (0.000082)	0.000122 (0.00008)	ND (0.00051)	ND (0.0005)	ND (0.000083)	ND (0.000087)	ND (0.00008)	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.00052)	ND (0.00052)	ND (0.001)	0.0064 (0.001)	0.00029 J (0.00052)	ND (0.00052)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.00052)	ND (0.00052)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
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H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-441	S-441	S-441	S-441	S-441_CD	S-441_CD	S-441_CD	S-441_CD	S-442
Field Sample ID	Groundwater MSC	S-441_20200831	S-441_20210505_410-38735-1	S-441_20220405_42610	S-441_20230501	CD-6A-W-19.0-20200722_410-14623-1	CD-6A-W-19.0-20200722_410-8574-1	CD-6A-W-44.0-20200723_410-14623-1	CD-6A-W-44.0-20200723_410-8574-1	S-442_20200831
Sample Date	Used Aquifer	8/31/2020	5/5/2021	4/5/2022	5/1/2023	7/22/2020	7/22/2020	7/23/2020	7/23/2020	8/31/2020
Comments	(TDS ≤ 2500)									
Volatile Organic Compounds										
Benzene	0.005	0.42 (0.005)	0.36 (0.005)	0.412 (0.005)	0.322 (0.0025)	NA	0.0053 (0.005)	NA	0.22 (0.005)	1.1 (0.05)
Cumene	3.5	0.024 J (0.025)	0.019 J (0.025)	0.0243 (0.001)	0.0232 (0.001)	NA	0.016 J (0.025)	NA	0.012 J (0.025)	0.017 J (0.025)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000028)	ND (0.00002)	ND (0.00002)	ND,H,H3 (0.000029)	NA	ND,H,H3 (0.000029)	NA	ND (0.000029)
1,2-Dichloroethane	0.005	ND (0.005)	0.002 J (0.005)	ND (0.001)	ND (0.001)	NA	ND (0.005)	NA	ND (0.005)	ND (0.005)
Ethyl Benzene	0.7	0.019 (0.005)	0.023 (0.005)	0.0092 (0.001)	0.0064 (0.001)	NA	0.021 (0.005)	NA	0.078 (0.005)	0.066 (0.005)
Methyl tert-butyl ether	0.02	0.0069 (0.005)	0.006 (0.005)	0.0062 (0.001)	0.003 (0.001)	NA	ND (0.005)	NA	ND (0.005)	0.014 (0.005)
Toluene	1	0.12 (0.005)	0.12 (0.005)	0.151 (0.001)	0.147 (0.001)	NA	0.018 (0.005)	NA	0.23 (0.005)	0.062 (0.005)
1,2,4-Trimethylbenzene	0.53	0.041 (0.025)	0.022 J (0.025)	0.0229 (0.002)	0.0081 (0.002)	NA	0.27 (0.025)	NA	0.14 (0.025)	0.14 (0.025)
1,3,5-Trimethylbenzene	0.53	0.028 (0.025)	0.017 J (0.025)	0.0195 (0.002)	0.0118 (0.002)	NA	0.055 (0.025)	NA	0.048 (0.025)	0.065 (0.025)
Xylenes (total)	10	0.18 (0.03)	0.15 (0.03)	0.135 (0.001)	0.0774 (0.001)	NA	0.057 (0.03)	NA	0.46 (0.03)	0.31 (0.03)
Semivolatile Organic Compounds										
Anthracene	0.066	ND (0.00051)	ND (0.00053)	0.0000443 JB (0.000078)	ND (0.00008)	NA	ND (0.0005)	NA	ND (0.00051)	ND (0.00051)
Benzo(a)anthracene	0.0039	ND (0.00051)	ND (0.00053)	ND (0.000039)	ND (0.00004)	NA	ND (0.0005)	NA	ND,B (0.00051)	ND (0.00051)
Benzo(a)pyrene	0.0002	ND (0.00051)	ND (0.00053)	ND (0.000039)	ND (0.00004)	NA	ND (0.0005)	NA	ND (0.00051)	ND (0.00051)
Benzo(b)fluoranthene	0.0012	ND (0.00051)	ND (0.00053)	ND (0.000039)	ND (0.00004)	NA	ND (0.0005)	NA	ND,B (0.00051)	ND (0.00051)
Benzo(g,h,i)perylene	0.00026	ND (0.00051)	ND (0.00053)	ND (0.000078)	ND (0.00008)	NA	ND (0.0005)	NA	ND (0.00051)	ND (0.00051)
Chrysene	0.0019	ND (0.00051)	ND (0.00053)	ND (0.000078)	ND (0.00008)	NA	ND (0.0005)	NA	ND,B (0.00051)	ND (0.00051)
Fluorene	1.9	ND (0.00051)	ND (0.00053)	0.0000418 JB (0.000078)	ND (0.00008)	NA	ND (0.0005)	NA	ND (0.00051)	ND (0.00051)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.0038 (0.00051)	0.0048 (0.00053)	0.00227 B (0.000078)	0.000958 (0.00008)	NA	0.0089 (0.0005)	NA	0.019 (0.00051)	0.014 (0.00051)
Phenanthrene	1.1	ND (0.00051)	ND (0.00053)	0.0000484 JB (0.000078)	ND (0.00008)	NA	ND (0.0005)	NA	ND (0.00051)	0.00012 J (0.00051)
Pyrene	0.13	ND (0.00051)	ND (0.00053)	ND (0.000078)	ND (0.00008)	NA	ND (0.0005)	NA	ND (0.00051)	ND (0.00051)
Metals										
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.00052)	ND (0.00052)	ND (0.001)	ND (0.001)	NA	ND (0.00052)	NA	ND (0.00052)	0.00016 J (0.00052)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
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J+ - Indicates an estimated value that is biased high
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-442	S-442	S-442	S-442_CD	S-442_CD	S-443	S-443	S-443	S-443	S-443_CD	S-443_CD
Field Sample ID	Groundwater MSC	42_20210505_410-38735-1	S-442_20220405_42610	S-442_20230501	CD-5-W-20.0-202007	CD-5-W-44.0-20200715	S-443_20200831	S-443_20210505	S-443_20220405	S-443_20230501	CD-6C-W-19.0-20200720	CD-6C-W-40.0-20200721
Sample Date	Used Aquifer	5/5/2021	4/5/2022	5/1/2023	7/14/2020	7/15/2020	8/31/2020	5/5/2021	4/5/2022	5/1/2023	7/20/2020	7/21/2020
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	1.1 (0.05)	0.356 (0.005)	0.155 (0.0005)	0.015 (0.005)	1.1 (0.05)	0.45 (0.005)	0.13 (0.005)	0.715 (0.0025)	1.35 (0.005)	0.78 (0.005)	0.36 (0.005)
Cumene	3.5	0.015 J (0.025)	0.0126 (0.001)	0.0126 (0.001)	0.042 (0.025)	0.023 J (0.025)	0.011 J (0.025)	0.0073 J (0.025)	0.0117 (0.005)	0.0128 (0.01)	0.02 J (0.025)	0.011 J (0.025)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.00002)	ND (0.000021)	ND (0.000029)	ND (0.000029)	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.000021)	ND (0.000029)	ND (0.000029)
1,2-Dichloroethane	0.005	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)
Ethyl Benzene	0.7	0.018 (0.005)	0.0281 (0.001)	0.0797 (0.001)	0.22 (0.005)	0.17 (0.005)	0.18 (0.005)	0.031 (0.005)	0.0146 (0.005)	0.0202 (0.01)	1 (0.05)	0.18 (0.005)
Methyl tert-butyl ether	0.02	0.013 (0.005)	0.0166 (0.001)	0.0119 (0.001)	ND (0.005)	0.0081 (0.005)	0.011 (0.005)	0.011 (0.005)	0.0147 (0.005)	0.0107 (0.01)	0.0042 J (0.005)	0.011 (0.005)
Toluene	1	0.021 (0.005)	0.0389 (0.001)	0.118 (0.001)	0.11 (0.005)	0.23 (0.005)	0.25 (0.005)	0.0073 (0.005)	0.113 (0.005)	0.171 (0.01)	0.072 (0.005)	0.35 (0.005)
1,2,4-Trimethylbenzene	0.53	0.034 (0.025)	0.0413 (0.002)	0.0184 (0.002)	0.73 (0.025)	0.3 (0.025)	0.43 (0.025)	0.19 (0.025)	0.0663 (0.01)	0.052 (0.02)	0.71 (0.025)	0.39 (0.025)
1,3,5-Trimethylbenzene	0.53	ND (0.025)	0.0056 (0.002)	0.0211 (0.002)	0.23 (0.025)	0.11 (0.025)	0.15 (0.025)	0.004 J (0.025)	0.0079 J (0.01)	0.0393 (0.02)	0.28 (0.025)	0.13 (0.025)
Xylenes (total)	10	0.02 J (0.03)	0.055 (0.001)	0.147 (0.001)	0.97 (0.03)	0.94 (0.03)	1 (0.03)	0.018 J (0.03)	0.0599 (0.005)	0.104 (0.01)	2.4 (0.3)	1 (0.03)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00052)	0.0000454 JB (0.000082)	0.0000488 J (0.00008)	ND (0.0005)	ND,B (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.000074)	0.0000509 J (0.00008)	ND (0.0005)	ND (0.0005)
Benzo(a)anthracene	0.0039	ND (0.00052)	ND (0.000041)	ND (0.00004)	ND (0.0005)	ND,B (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.000037)	ND (0.00004)	ND (0.0005)	ND (0.0005)
Benzo(a)pyrene	0.0002	ND (0.00052)	ND (0.000041)	ND (0.00004)	ND (0.0005)	ND,B (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.000037)	ND (0.00004)	ND (0.0005)	ND (0.0005)
Benzo(b)fluoranthene	0.0012	ND (0.00052)	ND (0.000041)	ND (0.00004)	ND (0.0005)	ND,B (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.000037)	ND (0.00004)	ND (0.0005)	ND (0.0005)
Benzo(g,h,i)perylene	0.00026	ND (0.00052)	ND (0.000082)	ND (0.00008)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.000074)	ND (0.00008)	ND (0.0005)	ND (0.0005)
Chrysene	0.0019	ND (0.00052)	ND (0.000082)	ND (0.00008)	ND (0.0005)	ND,B (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.000074)	ND (0.00008)	ND (0.0005)	ND (0.0005)
Fluorene	1.9	ND (0.00052)	0.0000635 JB (0.000082)	0.0000482 J (0.00008)	0.00056 (0.0005)	ND,B (0.0005)	0.00014 J (0.0005)	ND (0.00051)	0.0000602 JB (0.000074)	0.0000747 J (0.00008)	0.00021 J (0.0005)	0.00013 J (0.0005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.0016 (0.00052)	0.00235 B (0.000082)	0.00901 (0.0004)	0.083 (0.0005)	0.05 B (0.0005)	0.061 (0.0005)	0.0067 (0.00051)	0.0086 B (0.00074)	0.0294 (0.0008)	0.14 (0.0025)	0.039 (0.0005)
Phenanthrene	1.1	ND (0.00052)	0.0000523 JB (0.000082)	0.0000424 J (0.00008)	0.00075 (0.0005)	0.00016 JB (0.0005)	0.00014 J (0.0005)	ND (0.00051)	0.0000411 JB (0.000074)	0.0000722 J (0.00008)	0.00027 J (0.0005)	0.00011 J (0.0005)
Pyrene	0.13	ND (0.00052)	ND (0.000082)	ND (0.00008)	ND (0.0005)	ND,B (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.000074)	ND (0.00008)	ND (0.0005)	ND (0.0005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.00052)	ND (0.001)	ND (0.001)	ND (0.00052)	ND (0.00052)	ND (0.00052)	ND (0.00052)	ND (0.001)	ND (0.001)	ND (0.00052)	ND (0.00052)

Notes:

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-444	S-444	S-444	S-444	S-444_CD	S-445	S-445	S-445	S-445	S-445	S-445_CD
Field Sample ID	Groundwater MSC	S-444_20200831	44_20210506_410-39001-1	S-444_20220405_42610	S-444_20230501	CD-13A-W-39.0-20200709	S-445_20200901	45_20210505_410-38735-1	S-445_20220405_42610	S-445_20230501	DUP-2_20230501	CD-13B-W-40.0-20200707
Sample Date	Used Aquifer	8/31/2020	5/6/2021	4/5/2022	5/1/2023	7/9/2020	9/1/2020	5/5/2021	4/5/2022	5/1/2023	5/1/2023	7/7/2020
Comments	(TDS ≤ 2500)										Field Duplicate	
Volatile Organic Compounds												
Benzene	0.005	0.0069 (0.005)	0.0056 (0.005)	0.0127 (0.0005)	0.0072 (0.001)	0.0035 J (0.005)	0.5 (0.005)	0.41 (0.005)	0.312 (0.005)	0.69 (0.0025)	0.678 (0.0025)	0.48 (0.01)
Cumene	3.5	0.067 (0.025)	0.05 (0.025)	0.0733 (0.001)	0.0679 (0.002)	0.085 (0.025)	0.028 (0.025)	0.022 J (0.025)	0.0172 (0.001)	0.0286 (0.005)	0.0289 (0.005)	0.045 (0.005)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.00002)	ND,H (0.000029)	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.000021)	ND (0.000021)	ND (0.000028)
1,2-Dichloroethane	0.005	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.002)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Ethyl Benzene	0.7	0.32 (0.005)	0.54 (0.005)	0.719 (0.01)	0.542 (0.005)	0.43 (0.005)	0.068 (0.005)	0.049 (0.005)	0.0325 (0.001)	0.0658 (0.005)	0.0652 (0.005)	0.059 (0.001)
Methyl tert-butyl ether	0.02	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.002)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Toluene	1	0.11 (0.005)	0.15 (0.005)	0.156 (0.001)	0.128 (0.002)	0.094 (0.005)	0.13 (0.005)	0.1 (0.005)	0.0643 (0.001)	0.137 (0.005)	0.137 (0.005)	0.12 (0.001)
1,2,4-Trimethylbenzene	0.53	0.028 (0.025)	0.024 J (0.025)	0.0197 (0.002)	0.0093 (0.004)	0.024 J (0.025)	0.02 J (0.025)	0.014 J (0.025)	0.0115 (0.002)	0.0084 J (0.01)	0.0083 J (0.01)	0.033 (0.005)
1,3,5-Trimethylbenzene	0.53	0.03 (0.025)	0.025 (0.025)	0.0328 (0.002)	0.0241 (0.004)	0.026 (0.025)	0.012 J (0.025)	0.0081 J (0.025)	0.0077 (0.002)	0.0066 J (0.01)	0.0065 J (0.01)	0.019 (0.005)
Xylenes (total)	10	0.23 (0.03)	0.36 (0.03)	0.348 (0.001)	0.359 (0.002)	0.31 (0.03)	0.11 (0.03)	0.09 (0.03)	0.0842 (0.001)	0.148 (0.005)	0.151 (0.005)	0.13 (0.006)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00051)	ND (0.00052)	ND (0.00008)	0.0000461 J (0.00008)	ND (0.0005)	ND (0.0005)	ND (0.00052)	ND (0.000082)	ND (0.00008)	0.000436 (0.000083)	ND (0.00051)
Benzo(a)anthracene	0.0039	ND (0.00051)	ND (0.00052)	ND (0.00004)	ND (0.00004)	ND (0.0005)	ND (0.0005)	ND (0.00052)	ND (0.000041)	ND (0.00004)	0.000153 (0.000042)	0.00014 J (0.00051)
Benzo(a)pyrene	0.0002	ND (0.00051)	ND (0.00052)	ND (0.00004)	ND (0.00004)	ND (0.0005)	ND (0.0005)	ND (0.00052)	ND (0.000041)	0.000025 J (0.00004)	0.0000488 (0.000042)	ND (0.00051)
Benzo(b)fluoranthene	0.0012	ND (0.00051)	ND (0.00052)	ND (0.00004)	ND (0.00004)	ND (0.0005)	ND (0.0005)	ND (0.00052)	ND (0.000041)	0.0000664 B (0.00004)	0.0000826 B (0.000042)	ND (0.00051)
Benzo(g,h,i)perylene	0.00026	ND (0.00051)	ND (0.00052)	ND (0.00008)	ND (0.00008)	ND (0.0005)	ND (0.0005)	ND (0.00052)	ND (0.000082)	0.00013 (0.00008)	ND (0.000083)	ND (0.00051)
Chrysene	0.0019	ND (0.00051)	ND (0.00052)	ND (0.00008)	ND (0.00008)	ND (0.0005)	ND (0.0005)	ND (0.00052)	ND (0.000082)	ND (0.00008)	0.000141 (0.000083)	0.00036 J (0.00051)
Fluorene	1.9	0.00012 J (0.00051)	0.00016 J (0.00052)	0.000108 B (0.00008)	0.000121 (0.00008)	0.00019 J (0.0005)	ND (0.0005)	ND (0.00052)	0.0000612 JB (0.000082)	0.0000915 (0.00008)	0.000381 (0.000083)	0.00018 J (0.00051)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.033 (0.00051)	0.085 (0.00052)	0.0758 B (0.0008)	0.072 (0.0016)	0.047 (0.0005)	0.024 (0.0005)	0.017 (0.00052)	0.00128 B (0.000082)	0.011 (0.0004)	0.0137 (0.00042)	0.019 (0.00051)
Phenanthrene	1.1	ND (0.00051)	ND (0.00052)	0.0000514 JB (0.00008)	0.000093 (0.00008)	0.00014 J (0.0005)	ND (0.0005)	ND (0.00052)	ND (0.000082)	0.0000722 J (0.00008)	0.000865 (0.000083)	0.00023 J (0.00051)
Pyrene	0.13	ND (0.00051)	ND (0.00052)	ND (0.00008)	ND (0.00008)	ND (0.0005)	ND (0.0005)	ND (0.00052)	ND (0.000082)	ND (0.00008)	0.000519 (0.000083)	0.00019 J (0.00051)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	0.00025 J (0.00052)	ND (0.00052)	ND (0.001)	ND (0.001)	ND (0.00052)	0.00019 J (0.00052)	ND (0.00052)	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.00052)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-446	S-446	S-446	S-446	S-446	S-446_CD	S-446_CD	S-447	S-447	S-447	S-447_CD
Field Sample ID	Groundwater MSC	S-446_20200901	DUP-1_410-12585-1	S-446_20210505_410-38735-1	S-446_20220405	S-446_20230501	CD-12-W-25.0-20200618	CD-12-W-45.0-20200619	S-447_20200901	S-447_20210503	S-447_20220406_42842	CD-10-W-38.0-20200623
Sample Date	Used Aquifer	9/1/2020	9/1/2020	5/5/2021	4/5/2022	5/1/2023	6/18/2020	6/19/2020	9/1/2020	5/3/2021	4/6/2022	6/23/2020
Comments	(TDS ≤ 2500)		Field Duplicate									
Volatile Organic Compounds												
Benzene	0.005	ND (0.005)	ND (0.005)	0.0012 J (0.005)	0.00046 J (0.0005)	ND (0.0005)	ND (0.001)	ND (0.001)	0.1 (0.005)	0.22 (0.005)	0.594 (0.0025)	0.23 H (0.005)
Cumene	3.5	0.059 (0.025)	0.054 (0.025)	0.049 (0.025)	0.057 (0.001)	0.0374 (0.001)	0.0092 (0.005)	0.044 (0.005)	0.026 (0.025)	0.015 J (0.025)	0.0425 (0.005)	0.036 H (0.025)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.00002)	ND (0.000029)	ND (0.000029)	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.000029)
1,2-Dichloroethane	0.005	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND,H (0.005)
Ethyl Benzene	0.7	0.18 (0.005)	0.17 (0.005)	0.17 (0.005)	0.197 (0.001)	0.129 (0.001)	0.0037 (0.001)	0.16 (0.001)	0.5 (0.005)	0.31 (0.005)	0.794 (0.005)	0.28 H (0.005)
Methyl tert-butyl ether	0.02	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND,H (0.005)
Toluene	1	0.066 (0.005)	0.059 (0.005)	0.081 (0.005)	0.107 (0.001)	0.0997 (0.001)	0.00081 J (0.001)	0.078 (0.001)	0.95 (0.005)	0.45 (0.005)	1.19 (0.01)	0.33 H (0.005)
1,2,4-Trimethylbenzene	0.53	0.0058 J (0.025)	0.0053 J (0.025)	ND (0.025)	0.0031 (0.002)	0.0013 J (0.002)	ND (0.005)	0.0067 (0.005)	0.15 (0.025)	0.12 (0.025)	0.25 (0.01)	0.16 H (0.025)
1,3,5-Trimethylbenzene	0.53	0.0099 J (0.025)	0.0087 J (0.025)	0.0033 J (0.025)	0.0028 (0.002)	0.0029 (0.002)	0.00053 J (0.005)	0.009 (0.005)	0.047 (0.025)	0.04 (0.025)	0.0759 (0.01)	0.059 H (0.025)
Xylenes (total)	10	0.2 (0.03)	0.18 (0.03)	0.19 (0.03)	0.146 (0.001)	0.182 (0.001)	ND (0.006)	0.16 (0.006)	1.7 (0.03)	0.71 (0.03)	2.49 (0.01)	1.4 H (0.03)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00008)	0.0000657 J (0.000083)	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)	0.000044 JB (0.00008)	0.00072 (0.00051)
Benzo(a)anthracene	0.0039	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00004)	ND (0.000042)	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00004)	ND (0.00051)
Benzo(a)pyrene	0.0002	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00004)	ND (0.000042)	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00004)	ND,TL (0.00051)
Benzo(b)fluoranthene	0.0012	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00004)	ND (0.000042)	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00004)	ND,TL (0.00051)
Benzo(g,h,i)perylene	0.00026	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00008)	ND (0.000083)	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00008)	ND,TL (0.00051)
Chrysene	0.0019	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00008)	ND (0.000083)	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00008)	ND (0.00051)
Fluorene	1.9	0.00028 J (0.0005)	0.00029 J (0.0005)	0.00022 J (0.00051)	0.000103 B (0.00008)	0.000226 (0.000083)	NA	0.00019 J (0.0005)	ND (0.0005)	ND (0.00051)	0.000211 B (0.00008)	0.0025 (0.00051)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.054 (0.0005)	0.056 (0.0005)	0.053 (0.00051)	0.0251 B (0.0008)	0.0524 (0.0017)	0.0018 J (0.005)	0.058 (0.0005)	0.084 (0.0005)	0.031 (0.00051)	0.11 (0.0016)	0.26 (0.0025)
Phenanthrene	1.1	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00008)	0.0000814 J (0.000083)	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)	0.0000774 J (0.00008)	0.0042 (0.00051)
Pyrene	0.13	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00008)	0.0000717 J (0.000083)	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00008)	0.00035 J (0.00051)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.00052)	ND (0.00052)	ND (0.00052)	ND (0.001)	ND (0.001)	ND (0.00053)	ND,H (0.00052)	0.001 (0.0005)	ND (0.00052)	ND (0.001)	ND (0.00052)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-447_CD	S-448	S-448	S-448	S-448	S-448_CD	S-45	S-45	S-5	S-5	S-5
Field Sample ID	Groundwater MSC	CD-10-W-45.0-20200624	S-448_20200902	S-448_20210506	S-448_20220408	S-448_20230501	CD-14-W-23.0-20200811	S-45_091709	S-45_120909	S-5_072110	AOI3_S-5_010816	AOI3-S-5-030916
Sample Date	Used Aquifer	6/24/2020	9/2/2020	5/6/2021	4/8/2022	5/1/2023	8/11/2020	9/17/2009	12/9/2009	7/21/2010	1/8/2016	3/9/2016
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.27 H (0.01)	0.00023 J (0.001)	0.0035 (0.001)	ND (0.0005)	ND (0.0005)	0.018 J (0.02)	0.023 (0.001)	ND (0.001)	ND (0.001)	0.00032 J,SL (0.0005)	ND,SL (0.001)
Cumene	3.5	0.042 H (0.005)	0.0017 J (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	0.054 J (0.1)	0.01 (0.002)	ND (0.002)	0.013 (0.002)	0.0112 SL (0.001)	0.0013 SL (0.001)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000029)	ND (0.000028)	ND (0.00002)	ND (0.00002)	ND (0.00003)	ND (0.001)	ND (0.000029)	ND (0.000029)	ND,SL (0.000019)	ND,SL (0.00004)
1,2-Dichloroethane	0.005	ND,H (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.02)	ND (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.001)	ND,SL (0.001)
Ethyl Benzene	0.7	0.086 H (0.001)	0.0067 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	1.4 (0.02)	0.001 (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.001)	ND,SL (0.001)
Methyl tert-butyl ether	0.02	ND,H (0.001)	0.003 (0.001)	0.0029 (0.001)	0.0018 (0.001)	0.0018 (0.001)	ND (0.02)	ND (0.001)	ND (0.001)	0.001 (0.001)	0.0011 SL (0.001)	ND,SL (0.001)
Toluene	1	0.21 H (0.01)	0.00047 J (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.7 (0.02)	0.002 (0.001)	ND (0.001)	ND (0.001)	0.0002 J,SL (0.001)	ND,SL (0.001)
1,2,4-Trimethylbenzene	0.53	0.057 H (0.005)	0.0017 J (0.005)	ND (0.005)	ND (0.002)	ND (0.002)	0.8 (0.1)	NA	NA	ND (0.002)	0.0018 J,SL (0.002)	ND,SL (0.001)
1,3,5-Trimethylbenzene	0.53	0.022 H (0.005)	0.0033 J (0.005)	ND (0.005)	ND (0.002)	ND (0.002)	0.32 (0.1)	NA	NA	ND (0.002)	0.0007 J,SL (0.002)	ND,SL (0.001)
Xylenes (total)	10	0.4 H (0.06)	0.0052 J (0.006)	ND (0.006)	ND (0.001)	ND (0.001)	3 (0.12)	0.002 (0.001)	ND (0.001)	0.002 (0.001)	0.002 SL (0.001)	ND,SL (0.003)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00051)	0.00014 J (0.0005)	ND (0.00052)	0.000145 (0.000071)	0.000165 (0.00008)	0.00019 J (0.00051)	NA	NA	NA	0.000339 SL (0.00011)	0.00094 SL (0.0001)
Benzo(a)anthracene	0.0039	ND (0.00051)	ND (0.0005)	ND (0.00052)	0.0000331 J (0.000036)	ND (0.00004)	0.00026 J (0.00051)	NA	NA	NA	ND,SL (0.000056)	0.000071 J,SL (0.0001)
Benzo(a)pyrene	0.0002	ND (0.00051)	ND (0.0005)	ND (0.00052)	0.0000226 J (0.000036)	ND (0.00004)	0.0002 J (0.00051)	NA	NA	NA	ND,SL (0.000056)	0.000049 J,SL (0.0001)
Benzo(b)fluoranthene	0.0012	ND (0.00051)	ND (0.0005)	ND (0.00052)	0.0000214 J (0.000036)	ND (0.00004)	0.0002 J (0.00051)	NA	NA	NA	ND,SL (0.00011)	0.00016 SL (0.0001)
Benzo(g,h,i)perylene	0.00026	ND (0.00051)	ND (0.0005)	ND (0.00052)	ND (0.000071)	ND (0.00008)	0.0001 J (0.00051)	NA	NA	NA	ND,SL (0.00011)	0.000059 J,SL (0.0001)
Chrysene	0.0019	ND (0.00051)	ND (0.0005)	ND (0.00052)	ND (0.000071)	ND (0.00008)	0.0003 J (0.00051)	ND (0.005)	ND (0.005)	ND (0.005)	ND,SL (0.00011)	0.00028 SL (0.0001)
Fluorene	1.9	0.00031 J (0.00051)	ND (0.0005)	ND (0.00052)	0.000144 (0.000071)	0.0000467 J (0.00008)	0.00028 J (0.00051)	ND (0.005)	ND (0.005)	0.005 (0.005)	0.00231 SL (0.00011)	0.0026 SL (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.061 (0.00051)	0.0012 (0.0005)	ND (0.00052)	ND (0.000071)	0.0000538 J (0.00008)	0.38 (0.0051)	ND (0.005)	ND (0.005)	ND (0.005)	ND,SL (0.00011)	0.00082 SL (0.0001)
Phenanthrene	1.1	ND (0.00051)	0.00026 J (0.0005)	ND (0.00052)	0.000187 (0.000071)	0.0000635 J (0.00008)	0.001 (0.00051)	ND (0.005)	ND (0.005)	ND (0.005)	0.00101 SL (0.00011)	0.0013 SL (0.0001)
Pyrene	0.13	ND (0.00051)	ND (0.0005)	ND (0.00052)	0.000158 (0.000071)	0.0000608 J (0.00008)	0.00035 J (0.00051)	ND (0.005)	ND (0.005)	ND (0.005)	0.000319 SL (0.00011)	0.00065 SL (0.0001)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	0.00046 J (0.00052)	ND (0.0005)	ND (0.00052)	ND (0.001)	ND (0.001)	ND (0.00052)	ND (0.000001)	ND (0.000001)	ND (0.000001)	0.0036 SL (0.003)	ND,SL (0.005)

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-57	S-57	S-57	S-60	S-60	S-61	S-61	S-9	S-9	S-9	S-9
Field Sample ID	Groundwater MSC	S-57_06_12_2013	S-57-20160816-WG	S-57-20161013-WG	AOI3_S-60_010816	AOI3-S-60-030916	S-61-20160819-WG	S-61-20161004-WG	S-9_112509	S-9_072110	AOI3-S-9_082213	AOI3_S-9_061215
Sample Date	Used Aquifer	6/12/2013	8/15/2016	10/13/2016	1/8/2016	3/9/2016	8/19/2016	10/4/2016	11/25/2009	7/21/2010	8/22/2013	6/12/2015
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	ND (0.001)	ND (0.001)	0.00039 J,SL (0.0005)	0.00017 J,SL (0.001)	ND,SL (0.001)	ND,SL (0.005)	0.007 (0.001)	ND (0.001)	ND (0.001)	0.0007 J (0.001)
Cumene	3.5	ND (0.002)	0.00347 (0.001)	0.00144 (0.001)	0.0381 SL (0.001)	0.0426 SL (0.001)	0.00091 J,SL (0.001)	0.006 SL (0.005)	ND (0.002)	ND (0.002)	ND (0.002)	0.0016 (0.001)
1,2-Dibromoethane	0.00005	ND (0.00002)	ND (0.00001)	ND (0.00001)	ND,SL (0.000019)	ND,SL (0.00004)	ND,SL (0.00004)	ND,SL (0.00004)	ND (0.00003)	ND (0.000029)	ND (0.00002)	0.000097 (0.00004)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.001)	ND,SL (0.001)	ND,SL (0.001)	ND,SL (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	ND (0.001)	0.00439 (0.001)	ND (0.001)	ND,SL (0.001)	ND,SL (0.001)	ND,SL (0.001)	ND,SL (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.00057 J (0.001)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	ND (0.001)	0.0042 SL (0.001)	0.0041 SL (0.001)	ND,SL (0.001)	ND,SL (0.005)	0.012 (0.001)	0.008 (0.001)	0.0042 (0.001)	0.0156 (0.001)
Toluene	1	ND (0.001)	ND (0.005)	ND (0.005)	0.00024 J,SL (0.001)	0.00037 J,SL (0.001)	0.00023 J,SL (0.001)	ND,SL (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.0019 (0.001)
1,2,4-Trimethylbenzene	0.53	ND (0.002)	0.0112 (0.001)	ND (0.001)	0.00024 J,SL (0.002)	ND,SL (0.001)	0.0002 J,SL (0.001)	ND,SL (0.005)	ND (0.002)	ND (0.002)	ND (0.002)	0.0015 (0.001)
1,3,5-Trimethylbenzene	0.53	ND (0.002)	0.004 (0.001)	ND (0.001)	0.00031 J,SL (0.002)	ND,SL (0.001)	ND,SL (0.001)	ND,SL (0.005)	ND (0.002)	ND (0.002)	ND (0.002)	0.00043 J (0.001)
Xylenes (total)	10	ND (0.001)	0.0123 (0.003)	ND (0.003)	0.0012 SL (0.001)	0.00089 J,SL (0.003)	ND,SL (0.003)	ND,SL (0.015)	ND (0.001)	ND (0.001)	ND (0.001)	0.0037 (0.003)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.0001)	0.000255 (0.00005)	ND (0.00005)	ND,SL (0.00011)	0.0034 SL (0.001)	0.0127 SL (0.001)	0.0027 SL (0.0012)	NA	NA	ND (0.0001)	0.00018 (0.0001)
Benzo(a)anthracene	0.0039	ND (0.0001)	ND (0.00005)	ND (0.00005)	0.000075 SL (0.000056)	0.0012 SL (0.001)	0.0023 SL (0.001)	0.001 J,SL (0.0012)	NA	NA	ND (0.0001)	ND (0.0001)
Benzo(a)pyrene	0.0002	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND,SL (0.000056)	0.0007 J,SL (0.001)	0.0031 SL (0.001)	0.00077 J,SL (0.0012)	NA	NA	ND (0.0001)	ND (0.0001)
Benzo(b)fluoranthene	0.0012	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND,SL (0.00011)	0.0012 SL (0.001)	0.0045 SL (0.001)	0.0013 SL (0.0012)	NA	NA	ND (0.0001)	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND,SL (0.00011)	0.00026 J,SL (0.001)	0.0017 SL (0.001)	0.00036 J,SL (0.0012)	NA	NA	ND (0.0001)	ND (0.0001)
Chrysene	0.0019	0.000176 (0.0001)	ND (0.00005)	ND (0.00005)	ND,SL (0.00011)	0.0015 SL (0.001)	0.0102 SL (0.001)	0.003 SL (0.0012)	ND (0.005)	ND (0.005)	ND (0.0001)	ND (0.0001)
Fluorene	1.9	0.00426 (0.0001)	0.00105 (0.00005)	0.00161 (0.00005)	0.000465 SL (0.00011)	0.0062 SL (0.001)	0.0131 SL (0.001)	0.008 SL (0.0012)	ND (0.005)	ND (0.005)	ND (0.0001)	0.00031 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	ND (0.0001)	0.00232 (0.00025)	ND (0.00025)	ND,SL (0.00011)	0.0063 SL (0.001)	0.0154 SL (0.001)	0.0068 SL (0.0012)	ND (0.005)	ND (0.005)	ND (0.0001)	0.00033 (0.0001)
Phenanthrene	1.1	0.00416 (0.0001)	0.00174 (0.00005)	0.00184 (0.00005)	0.000318 SL (0.00011)	0.0101 SL (0.001)	0.0206 SL (0.001)	0.0161 SL (0.0012)	ND (0.005)	ND (0.005)	ND (0.0001)	0.0001 J (0.0001)
Pyrene	0.13	0.000768 (0.0001)	0.000284 (0.00005)	0.000228 (0.00005)	0.000219 SL (0.00011)	0.0047 SL (0.001)	0.0225 SL (0.001)	0.0057 SL (0.0012)	ND (0.005)	ND (0.005)	ND (0.0001)	ND (0.0001)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.003)	ND (0.002)	ND (0.002)	ND,SL (0.003)	ND,SL (0.005)	ND,SL (0.005)	ND,SL (0.005)	ND (0.001)	ND (0.000001)	0.0039 (0.003)	ND (0.005)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:
ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-9	S-95	S-95	S-95	S-95	S-95	S-95	S-95	S-96	S-96	S-96
Field Sample ID	Groundwater MSC	AOI3_S-9_123015	S95D-041505	S-95_06/23/2009	S-95_120909	S-95_071912	S-95~JB67747	S-95-20141208	S-95_20220325	S-96	S96-080105	S-96_06_14_2013
Sample Date	Used Aquifer	12/30/2015	4/15/2005	6/23/2009	12/9/2009	7/19/2012	5/23/2014	12/8/2014	3/25/2022	10/20/2004	8/1/2005	6/14/2013
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	ND (0.0005)	NA	NA	0.002 (0.001)	0.003 (0.001)	ND (0.0005)	0.0026 (0.0005)	0.0022 (0.0005)	ND (0.001)	ND (0.005)	0.00046 J (0.001)
Cumene	3.5	ND (0.001)	NA	NA	0.032 (0.002)	0.088 (0.002)	0.0035 (0.001)	0.0904 (0.001)	0.0788 (0.001)	ND (0.005)	ND (0.005)	0.00046 J (0.002)
1,2-Dibromoethane	0.00005	ND (0.000019)	NA	NA	ND (0.00003)	ND (0.000029)	ND (0.00002)	ND (0.00002)	ND (0.00002)	NA	ND (0.000029)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.001)	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Ethyl Benzene	0.7	ND (0.001)	NA	NA	ND (0.001)	0.0007 J (0.001)	ND (0.001)	0.00055 J (0.001)	0.00066 J (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Methyl tert-butyl ether	0.02	0.0089 (0.001)	NA	NA	0.002 (0.001)	0.005 (0.001)	0.00092 J (0.001)	0.0074 (0.001)	0.0031 (0.001)	ND (0.005)	ND (0.005)	0.0012 (0.001)
Toluene	1	ND (0.001)	NA	NA	ND (0.001)	0.002 (0.001)	ND (0.001)	0.0015 (0.001)	0.0015 (0.001)	ND (0.005)	ND (0.005)	0.0011 (0.001)
1,2,4-Trimethylbenzene	0.53	0.00033 J (0.002)	NA	NA	NA	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	NA	NA	ND (0.002)
1,3,5-Trimethylbenzene	0.53	ND (0.002)	NA	NA	NA	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	NA	NA	ND (0.002)
Xylenes (total)	10	0.00046 J (0.001)	NA	NA	0.002 (0.001)	0.004 (0.001)	ND (0.001)	0.0031 (0.001)	0.0029 (0.001)	ND (0.01)	ND (0.005)	0.00025 J (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	0.000228 (0.0001)	NA	NA	NA	0.0004 J (0.0005)	ND (0.0001)	0.000127 (0.0001)	0.000115 (0.000069)	NA	NA	ND (0.001)
Benzo(a)anthracene	0.0039	ND (0.00005)	NA	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.000034)	NA	NA	ND (0.001)
Benzo(a)pyrene	0.0002	ND (0.00005)	NA	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.000034)	NA	NA	ND (0.001)
Benzo(b)fluoranthene	0.0012	ND (0.0001)	NA	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.000034)	NA	NA	ND (0.001)
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	NA	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.000069)	NA	NA	ND (0.001)
Chrysene	0.0019	ND (0.0001)	NA	NA	ND (0.005)	0.0001 J (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.000069)	NA	ND (0.005)	ND (0.001)
Fluorene	1.9	0.000135 (0.0001)	NA	NA	ND (0.005)	0.003 (0.0005)	0.000248 (0.0001)	0.00224 (0.0001)	0.00143 (0.000069)	NA	ND (0.005)	0.00416 (0.001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	ND (0.0001)	NA	NA	ND (0.005)	0.003 (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.000069)	ND (0.005)	ND (0.005)	ND (0.001)
Phenanthrene	1.1	0.000151 (0.0001)	NA	NA	ND (0.005)	0.002 (0.0005)	0.00012 (0.0001)	0.00128 (0.0001)	0.000985 (0.000069)	NA	ND (0.005)	ND (0.001)
Pyrene	0.13	0.000157 (0.0001)	NA	NA	ND (0.005)	0.0003 J (0.0005)	ND (0.0001)	ND (0.0001)	0.0000482 J (0.000069)	NA	ND (0.005)	0.00311 (0.001)
Metals												
Lead	0.005	NA	ND (0.001)	ND (0.001)	NA	NA	NA	NA	NA	NA	ND (0.001)	NA
Lead (Dissolved)	0.005	ND (0.003)	NA	NA	ND (0.000001)	0.00016 J (0.001)	ND (0.003)	0.0024 J (0.003)	ND (0.001)	NA	NA	0.0029 J (0.003)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:
ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-96	S-97	S-97	S-97	S-97	S-97	Steen-MW-64	Steen-MW-64	Steen-MW-64	Steen-MW-64	Steen-MW-64
Field Sample ID	Groundwater MSC	S-96-20160817-WG	S-97	S97-050405	S-97_06_13_2013	S-97-20160817-WG	S-97-20161013-WG	STEEN-MW-64(07-12-12)	STEEN-MW-64_05-09-2017	STEEN-MW-64_20191203	STEEN-MW-64_20220413	STEEN-MW-64_20220413FD
Sample Date	Used Aquifer	8/17/2016	10/20/2004	5/4/2005	6/13/2013	8/17/2016	10/13/2016	7/12/2012	5/9/2017	12/3/2019	4/13/2022	4/13/2022
Comments	(TDS ≤ 2500)											Field Duplicate
Volatile Organic Compounds												
Benzene	0.005	0.0454 (0.005)	0.29	0.6 (0.05)	0.0028 (0.001)	ND (0.005)	ND (0.005)	11 XQ (0.5)	7.19	6.18	5.5	5.5
Cumene	3.5	0.0259 (0.005)	0.023	ND (0.05)	0.0048 (0.002)	0.00592 (0.005)	ND (0.005)	ND (0.5)	0.0244	0.0595	0.011 J	0.012 J
1,2-Dibromoethane	0.00005	ND (0.00001)	ND (0.00002)	ND (0.000028)	ND (0.00002)	ND (0.00001)	ND (0.00001)	ND (0.00002)	ND (0.0000099)	ND (0.00001)	ND (0.000028)	ND (0.000028)
1,2-Dichloroethane	0.005	ND (0.005)	0.004	ND (0.05)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.5)	ND (0.01)	ND (0.015)	ND (0.01)	ND (0.01)
Ethyl Benzene	0.7	0.0601 (0.005)	0.055	0.063 (0.05)	0.0019 (0.001)	ND (0.005)	ND (0.005)	ND (0.5)	0.0248	0.0337	0.0091 J	0.01
Methyl tert-butyl ether	0.02	ND (0.005)	ND (0.0018)	ND (0.05)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.5)	ND (0.01)	ND (0.015)	0.0062 J	0.0065 J
Toluene	1	0.0511 (0.025)	0.019	ND (0.05)	0.00068 J (0.001)	ND (0.025)	ND (0.025)	0.092 XQ (0.5)	0.0818	0.0783	0.057	0.058
1,2,4-Trimethylbenzene	0.53	0.00843 (0.005)	NA	NA	0.0093 (0.002)	0.00642 (0.005)	ND (0.005)	ND (0.5)	ND (0.02)	ND (0.03)	ND (0.05)	ND (0.05)
1,3,5-Trimethylbenzene	0.53	0.0192 (0.005)	NA	NA	0.01 (0.002)	0.0122 (0.005)	0.0058 (0.005)	ND (0.5)	ND (0.01)	ND (0.03)	0.0032 J	0.0033 J
Xylenes (total)	10	0.082 (0.015)	0.16	0.23 (0.05)	0.0047 (0.001)	ND (0.015)	ND (0.015)	ND (1.5)	0.0698	0.0736	0.049	0.052
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.001)	NA	NA	ND (0.0001)	0.00117 (0.0001)	ND (0.0001)	NA	NA	NA	NA	NA
Benzo(a)anthracene	0.0039	ND (0.001)	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.0002	ND (0.001)	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	0.0012	ND (0.001)	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.00026	ND (0.001)	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	NA	NA	NA	NA
Chrysene	0.0019	ND (0.001)	ND (0.00014)	ND (0.01)	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	NA	NA	NA	NA
Fluorene	1.9	0.00247 (0.001)	ND (0.01)	0.025 (0.01)	0.00139 (0.0001)	0.00319 (0.0001)	0.00268 (0.0001)	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.001)	NA	NA	NA	ND (0.0001)	ND (0.0001)	NA	NA	NA	NA	NA
Naphthalene	0.1	0.00577 (0.005)	0.055	0.11 (0.01)	ND (0.0001)	0.0009 (0.0005)	ND (0.0005)	ND (0.5)	ND (0.04)	ND (0.06)	ND (0.05)	ND (0.05)
Phenanthrene	1.1	0.00321 (0.001)	ND (0.01)	0.047 (0.01)	0.00221 (0.0001)	0.00535 (0.0001)	0.00364 (0.0001)	NA	NA	NA	NA	NA
Pyrene	0.13	ND (0.001)	ND (0.01)	ND (0.01)	0.000434 (0.0001)	0.00151 (0.0001)	0.000577 (0.0001)	NA	NA	NA	NA	NA
Metals												
Lead	0.005	NA	NA	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.002)	ND (0.005)	NA	0.0214 (0.003)	0.00491 (0.002)	ND (0.002)	0.00036 J (0.001)	ND (0.002)	ND (0.002)	0.0002 J	0.00025 J

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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Appendix E

Historical Soil and Groundwater Analytical Results

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4_BH-13-81	AOI4_BH-13-90	AOI4_BH-13-94	AOI4_BH-13-94	AOI4-BH-13-100	AOI4-BH-13-100	AOI4-BH-13-101	AOI4-BH-13-101
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI-4_BH-13-81_8-10'	AOI-4_BH-13-90_8-10'_031513	AOI-4_BH-13-94_0-2_031513	AOI-4_BH-13-94_8-10_031513	AOI4-BH-13-100_0-1_31813	AOI4-BH-13-100_5-6_31813	AOI4-BH-13-101_0-1_31813	AOI4-BH-13-101_7-8_31813
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	8.0 - 10.0	8.0 - 10.0	0.0 - 2.0	8.0 - 10.0	0.0 - 1.0	5.0 - 6.0	0.0 - 1.0	7.0 - 8.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	3/20/2013	3/15/2013	3/15/2013	3/15/2013	3/18/2013	3/18/2013	3/18/2013	3/18/2013
Comments	(0-2 ft)	(2-15 ft)	MSCs								
Volatile Organic Compounds											
Benzene	280	330	0.5	ND (0.00091)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.00088)	ND (0.0011)	ND (0.001)	ND (0.0013)
Cumene	10000	10000	2500	ND (0.0046)	ND (0.0058)	ND (0.0051)	ND (0.0055)	ND (0.0044)	ND (0.0057)	ND (0.0051)	ND (0.0063)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00091)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.00088)	ND (0.0011)	ND (0.001)	ND (0.0013)
1,2-Dichloroethane	85	98	0.5	ND (0.00091)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.00088)	ND (0.0011)	ND (0.001)	ND (0.0013)
Ethyl Benzene	880	1000	70	ND (0.00091)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.00088)	ND (0.0011)	ND (0.001)	ND (0.0013)
Methyl tert-butyl ether	8500	9800	2	ND (0.00091)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.00088)	ND (0.0011)	ND (0.001)	ND (0.0013)
Toluene	10000	10000	100	ND (0.00091)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.00088)	ND (0.0011)	ND (0.001)	ND (0.0013)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0046)	ND (0.0058)	ND (0.0051)	ND (0.0055)	ND (0.0044)	ND (0.0057)	ND (0.0051)	ND (0.0063)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0046)	ND (0.0058)	ND (0.0051)	ND (0.0055)	ND (0.0044)	ND (0.0057)	ND (0.0051)	ND (0.0063)
Xylenes (total)	7900	9100	1000	ND (0.00091)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.00088)	ND (0.0011)	ND (0.001)	ND (0.0013)
Semivolatile Organic Compounds											
Anthracene	190000	190000	350	ND (0.036)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.038)	ND (0.037)	0.0182 J (0.037)	ND (0.04)
Benzo(a)anthracene	130	190000	340	ND (0.036)	ND (0.12)	ND (0.11)	ND (0.12)	0.0231 J (0.038)	ND (0.037)	0.0559 (0.037)	ND (0.04)
Benzo(a)pyrene	91	190000	46	ND (0.036)	ND (0.12)	0.0442 J (0.11)	ND (0.12)	0.0243 J (0.038)	ND (0.037)	0.0449 (0.037)	ND (0.04)
Benzo(b)fluoranthene	76	190000	170	ND (0.036)	ND (0.12)	0.15 (0.11)	ND (0.12)	0.0303 J (0.038)	ND (0.037)	0.0544 (0.037)	ND (0.04)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.036)	ND (0.12)	ND (0.11)	ND (0.12)	0.0274 J (0.038)	ND (0.037)	0.0408 (0.037)	ND (0.04)
Chrysene	760	190000	230	ND (0.036)	ND (0.12)	ND (0.11)	ND (0.12)	0.0263 J (0.038)	ND (0.037)	0.0787 (0.037)	ND (0.04)
Fluorene	130000	190000	3800	ND (0.036)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.038)	ND (0.037)	ND (0.037)	ND (0.04)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.036)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.038)	ND (0.037)	ND (0.037)	ND (0.04)
Phenanthrene	190000	190000	10000	ND (0.036)	ND (0.12)	ND (0.11)	ND (0.12)	0.0235 J (0.038)	ND (0.037)	0.104 (0.037)	ND (0.04)
Pyrene	96000	190000	2200	ND (0.036)	ND (0.12)	0.0604 J (0.11)	ND (0.12)	0.0297 J (0.038)	ND (0.037)	0.12 (0.037)	ND (0.04)
Metals											
Lead	1000	190000	450	2.5 (2.3)	8.6 (1.1)	43.8 (1.1)	6.2 (1.1)	399 (2.3)	12.8 (2.4)	<u>494 (2.4)</u>	10.2 (2.1)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-BH-13-102	AOI4-BH-13-102	AOI4-BH-13-103	AOI4-BH-13-104	AOI4-BH-13-104	AOI4-BH-13-82	AOI4-BH-13-84	AOI4-BH-13-85
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-BH-13-102_0-1_31813	AOI4-BH-13-102_6-7_31813	AOI4-BH-13-103_2-3_31813	AOI4-BH-13-104_0-.5_31513	AOI4-BH-13-104_6-7_31513	AOI4-BH-13-82_6.5-7_031813	AOI4-BH-13-84_5.5-6_031513	AOI4-BH-13-85_5.5-6_031513
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 1.0	6.0 - 7.0	2.0 - 3.0	0.0 - 0.5	6.0 - 7.0	6.5 - 7.0	5.5 - 6.0	5.5 - 6.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	3/18/2013	3/18/2013	3/18/2013	3/15/2013	3/15/2013	3/18/2013	3/15/2013	3/15/2013
Comments	(0-2 ft)	(2-15 ft)	MSCs								
Volatile Organic Compounds											
Benzene	280	330	0.5	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.001)	1.96 (0.27)	ND (0.099)	ND (0.00088)	ND (0.00088)
Cumene	10000	10000	2500	ND (0.0056)	ND (0.005)	ND (0.0055)	ND (0.005)	7.31 (1.4)	0.129 J (0.5)	ND (0.0044)	ND (0.0044)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.001)	ND (0.27)	ND (0.099)	ND (0.00088)	ND (0.00088)
1,2-Dichloroethane	85	98	0.5	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.001)	ND (0.27)	ND (0.099)	ND (0.00088)	ND (0.00088)
Ethyl Benzene	880	1000	70	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.001)	29.5 (0.27)	0.186 (0.099)	ND (0.00088)	ND (0.00088)
Methyl tert-butyl ether	8500	9800	2	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.001)	ND (0.27)	ND (0.099)	ND (0.00088)	ND (0.00088)
Toluene	10000	10000	100	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.001)	6.55 (0.27)	ND (0.099)	ND (0.00088)	ND (0.00088)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0056)	ND (0.005)	ND (0.0055)	ND (0.005)	75.4 (5.5)	0.362 J (0.5)	ND (0.0044)	ND (0.0044)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0056)	ND (0.005)	ND (0.0055)	ND (0.005)	27.3 (1.4)	0.147 J (0.5)	ND (0.0044)	ND (0.0044)
Xylenes (total)	7900	9100	1000	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.001)	65.6 (0.27)	0.339 (0.099)	ND (0.00088)	ND (0.00088)
Semivolatile Organic Compounds											
Anthracene	190000	190000	350	ND (0.036)	ND (0.037)	ND (0.04)	ND (0.12)	2.56 (0.12)	ND (0.04)	ND (0.12)	ND (0.12)
Benzo(a)anthracene	130	190000	340	0.0292 J (0.036)	ND (0.037)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.04)	ND (0.12)	ND (0.12)
Benzo(a)pyrene	91	190000	46	ND (0.036)	ND (0.037)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.04)	ND (0.12)	ND (0.12)
Benzo(b)fluoranthene	76	190000	170	ND (0.036)	ND (0.037)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.04)	ND (0.12)	ND (0.12)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.036)	ND (0.037)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.04)	ND (0.12)	ND (0.12)
Chrysene	760	190000	230	0.0338 J (0.036)	ND (0.037)	ND (0.04)	ND (0.12)	ND (0.12)	ND (0.04)	ND (0.12)	ND (0.12)
Fluorene	130000	190000	3800	ND (0.036)	ND (0.037)	ND (0.04)	ND (0.12)	6.14 (0.12)	ND (0.04)	ND (0.12)	ND (0.12)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.036)	ND (0.037)	ND (0.04)	ND (0.12)	21.2 (0.61)	ND (0.04)	ND (0.12)	ND (0.12)
Phenanthrene	190000	190000	10000	0.0401 (0.036)	ND (0.037)	0.0341 J (0.04)	ND (0.12)	21.7 (0.61)	ND (0.04)	ND (0.12)	ND (0.12)
Pyrene	96000	190000	2200	0.0476 (0.036)	ND (0.037)	ND (0.04)	ND (0.12)	0.697 (0.12)	ND (0.04)	ND (0.12)	ND (0.12)
Metals											
Lead	1000	190000	450	1620 (2.4)	9.2 (2.1)	34 (2)	7 (1.1)	7.9 (1.1)	13.3 (2.5)	6.6 (1)	6.9 (1.1)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-BH-13-86	AOI4-BH-13-86	AOI4-BH-13-88	AOI4-BH-13-88	AOI4-BH-13-88	AOI4-BH-13-89	AOI4-BH-13-91	AOI4-BH-13-91
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-BH-13-86_2-2.5_031513	AOI4-BH-13-86_5.5-6_031513	AOI4-BH-13-88_1.5-2_31413	AOI4-BH-13-88_3.5-4_031413	AOI4-BH-13-88_5.5-6_031413	AOI4-BH-13-89_5.5-6_031913	AOI4-BH-13-91_0-2'_031413	AOI4-BH-13-91_8-10'_031413
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	2.0 - 2.5	5.5 - 6.0	1.5 - 2.0	3.5 - 4.0	5.5 - 6.0	5.5 - 6.0	0.0 - 2.0	8.0 - 10.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	3/15/2013	3/15/2013	3/14/2013	3/14/2013	3/14/2013	3/19/2013	3/14/2013	3/14/2013
Comments	(0-2 ft)	(2-15 ft)	MSCs								
Volatile Organic Compounds											
Benzene	280	330	0.5	ND (0.00085)	ND (0.00088)	ND (0.11)	ND (0.1)	ND (0.001)	ND (0.00089)	ND (0.00088)	ND (0.00085)
Cumene	10000	10000	2500	0.0143 (0.0043)	ND (0.0044)	0.694 (0.55)	0.993 (0.5)	ND (0.0051)	ND (0.0045)	ND (0.0044)	ND (0.0043)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00085)	ND (0.00088)	ND (0.11)	ND (0.1)	ND (0.001)	ND (0.00089)	ND (0.00088)	ND (0.00085)
1,2-Dichloroethane	85	98	0.5	ND (0.00085)	ND (0.00088)	ND (0.11)	ND (0.1)	ND (0.001)	ND (0.00089)	ND (0.00088)	ND (0.00085)
Ethyl Benzene	880	1000	70	0.0206 (0.00085)	ND (0.00088)	ND (0.11)	ND (0.1)	ND (0.001)	ND (0.00089)	ND (0.00088)	ND (0.00085)
Methyl tert-butyl ether	8500	9800	2	ND (0.00085)	ND (0.00088)	ND (0.11)	ND (0.1)	ND (0.001)	ND (0.00089)	ND (0.00088)	ND (0.00085)
Toluene	10000	10000	100	ND (0.00085)	ND (0.00088)	ND (0.11)	ND (0.1)	ND (0.001)	ND (0.00089)	ND (0.00088)	ND (0.00085)
1,2,4-Trimethylbenzene	4700	5400	300	0.0437 (0.0043)	ND (0.0044)	13.6 (0.55)	6.95 (0.5)	ND (0.0051)	ND (0.0045)	ND (0.0044)	ND (0.0043)
1,3,5-Trimethylbenzene	4700	5400	93	0.0169 (0.0043)	ND (0.0044)	ND (0.55)	ND (0.5)	ND (0.0051)	ND (0.0045)	ND (0.0044)	ND (0.0043)
Xylenes (total)	7900	9100	1000	0.0109 (0.00085)	ND (0.00088)	ND (0.11)	ND (0.1)	ND (0.001)	ND (0.00089)	ND (0.00088)	ND (0.00085)
Semivolatile Organic Compounds											
Anthracene	190000	190000	350	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.11)	ND (0.11)
Benzo(a)anthracene	130	190000	340	ND (0.12)	0.0692 J (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.11)	ND (0.11)
Benzo(a)pyrene	91	190000	46	ND (0.12)	0.0431 J (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.11)	ND (0.11)
Benzo(b)fluoranthene	76	190000	170	ND (0.12)	0.122 (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.037)	0.13 (0.11)	ND (0.11)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.11)	ND (0.11)
Chrysene	760	190000	230	ND (0.12)	0.0634 J (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.11)	ND (0.11)
Fluorene	130000	190000	3800	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.11)	ND (0.11)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.12)	ND (0.11)	2.53 (0.12)	0.894 (0.12)	ND (0.12)	ND (0.037)	ND (0.11)	ND (0.11)
Phenanthrene	190000	190000	10000	ND (0.12)	0.107 J (0.11)	0.622 (0.12)	0.393 (0.12)	ND (0.12)	ND (0.037)	ND (0.11)	ND (0.11)
Pyrene	96000	190000	2200	ND (0.12)	0.147 (0.11)	0.0608 J (0.12)	ND (0.12)	ND (0.12)	ND (0.037)	ND (0.11)	ND (0.11)
Metals											
Lead	1000	190000	450	7.8 (1.1)	<u>2140 (5.4)</u>	10 (1.2)	7.1 (1.1)	6.2 (1.1)	6.7 (2)	60.8 (1)	7.3 (0.99)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-BH-13-92	AOI4-BH-13-93	AOI4-BH-13-95	AOI4-BH-13-97	AOI4-BH-13-97	AOI4-BH-13-98	AOI4-BH-13-98	AOI4-BH-13-99
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-BH-13-92_8-10'	AOI4-BH-13-93_8-10'	AOI4-BH-13-95_8-10'	AOI4-BH-13-97.0-1_31413	AOI4-BH-13-97-8.5-9.5_31413	AOI4-BH-13-98_6-7_31413	AOI4-BH-13-98-1-2_31413	AOI4-BH-13-99_2.5-3_031813
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	8.0 - 10.0	8.0 - 10.0	8.0 - 10.0	0.0 - 1.0	8.5 - 9.5	6.0 - 7.0	1.0 - 2.0	2.5 - 3.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	3/18/2013	3/18/2013	3/18/2013	3/14/2013	3/14/2013	3/14/2013	3/14/2013	3/18/2013
Comments	(0-2 ft)	(2-15 ft)	MSCs								
Volatile Organic Compounds											
Benzene	280	330	0.5	ND (0.00089)	ND (0.00077)	ND (0.0009)	ND (0.00095)	ND (0.001)	0.127 (0.00096)	ND (0.001)	0.245 (0.15)
Cumene	10000	10000	2500	ND (0.0045)	ND (0.0038)	ND (0.0045)	ND (0.0047)	ND (0.005)	0.015 (0.0048)	ND (0.0051)	0.122 J (0.73)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00089)	ND (0.00077)	ND (0.0009)	ND (0.00095)	ND (0.001)	ND (0.00096)	ND (0.001)	ND (0.15)
1,2-Dichloroethane	85	98	0.5	ND (0.00089)	ND (0.00077)	ND (0.0009)	ND (0.00095)	ND (0.001)	ND (0.00096)	ND (0.001)	ND (0.15)
Ethyl Benzene	880	1000	70	ND (0.00089)	ND (0.00077)	ND (0.0009)	ND (0.00095)	ND (0.001)	0.581 (0.098)	ND (0.001)	0.11 J (0.15)
Methyl tert-butyl ether	8500	9800	2	ND (0.00089)	ND (0.00077)	ND (0.0009)	ND (0.00095)	ND (0.001)	ND (0.00096)	ND (0.001)	ND (0.15)
Toluene	10000	10000	100	ND (0.00089)	ND (0.00077)	ND (0.0009)	ND (0.00095)	ND (0.001)	0.702 (0.098)	ND (0.001)	0.182 (0.15)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0045)	ND (0.0038)	ND (0.0045)	ND (0.0047)	ND (0.005)	1.15 (0.49)	ND (0.0051)	0.169 J (0.73)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0045)	ND (0.0038)	ND (0.0045)	ND (0.0047)	ND (0.005)	0.0948 (0.0048)	ND (0.0051)	0.0611 J (0.73)
Xylenes (total)	7900	9100	1000	ND (0.00089)	ND (0.00077)	ND (0.0009)	ND (0.00095)	ND (0.001)	2.42 (0.098)	ND (0.001)	0.671 (0.15)
Semivolatile Organic Compounds											
Anthracene	190000	190000	350	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	ND (0.12)	ND (0.037)
Benzo(a)anthracene	130	190000	340	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	0.105 J (0.12)	0.0652 (0.037)
Benzo(a)pyrene	91	190000	46	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	0.0823 J (0.12)	0.0875 (0.037)
Benzo(b)fluoranthene	76	190000	170	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	0.189 (0.12)	0.0954 (0.037)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	0.0753 J (0.12)	0.109 (0.037)
Chrysene	760	190000	230	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	0.112 J (0.12)	0.114 (0.037)
Fluorene	130000	190000	3800	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	ND (0.12)	0.191 (0.037)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	ND (0.12)	0.0933 (0.037)
Phenanthrene	190000	190000	10000	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	0.0619 J (0.12)	0.38 (0.037)
Pyrene	96000	190000	2200	ND (0.071)	ND (0.036)	ND (0.033)	ND (0.12)	ND (0.1)	ND (0.12)	0.201 (0.12)	0.14 (0.037)
Metals											
Lead	1000	190000	450	11.6 (2.4)	10.7 (2.3)	5.5 (2.3)	81.5 (1.1)	2.9 (1)	8 (1.1)	136 (1.1)	1870 (2.4)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-BH-16-003	AOI4-BH-16-003	AOI4-BH-16-004	AOI4-BH-16-004	AOI4-BH-16-008	AOI4-BH-16-009	AOI4-BH-16-010
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-BH-16-003-0-2-20160824	AOI4-BH-16-003-14-15-20160824	AOI4-BH-16-004-0-2-20160824	AOI4-BH-16-004-14-15-20160824	AOI4-BH-16-008-0-2-20160614	AOI4-BH-16-009-0-2-20160614	AOI4-BH-16-010-0-2-20160614
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 2.0	14.0 - 15.0	0.0 - 2.0	14.0 - 15.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/24/2016	8/24/2016	8/24/2016	8/24/2016	6/14/2016	6/14/2016	6/14/2016
Comments	(0-2 ft)	(2-15 ft)	MSCs							
Volatile Organic Compounds										
Benzene	280	330	0.5	ND (0.00126)	0.00122 (0.0011)	ND (0.00121)	0.00135 (0.0012)	NA	NA	NA
Cumene	10000	10000	2500	ND (0.0126)	ND (0.011)	ND (0.0121)	ND (0.012)	NA	NA	NA
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00126)	ND (0.0011)	ND (0.00121)	ND (0.0012)	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	ND (0.00126)	ND (0.0011)	ND (0.00121)	ND (0.0012)	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.00126)	ND (0.0011)	ND (0.00121)	ND (0.0012)	NA	NA	NA
Methyl tert-butyl ether	8500	9800	2	0.00155 (0.00126)	0.0177 (0.0011)	ND (0.00121)	ND (0.0012)	NA	NA	NA
Toluene	10000	10000	100	ND (0.00629)	ND (0.0055)	ND (0.00604)	ND (0.00602)	NA	NA	NA
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.00126)	ND (0.0011)	ND (0.00121)	ND (0.0012)	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.00126)	ND (0.0011)	ND (0.00121)	ND (0.0012)	NA	NA	NA
Xylenes (total)	7900	9100	1000	ND (0.00377)	ND (0.0033)	ND (0.00362)	ND (0.00361)	NA	NA	NA
Semivolatile Organic Compounds										
Anthracene	190000	190000	350	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Benzo(a)anthracene	130	190000	340	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Benzo(a)pyrene	91	190000	46	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Benzo(b)fluoranthene	76	190000	170	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Benzo(g,h,i)perylene	190000	190000	180	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Chrysene	760	190000	230	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Fluorene	130000	190000	3800	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Naphthalene	66	77	25	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Phenanthrene	190000	190000	10000	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Pyrene	96000	190000	2200	ND (0.0415)	ND (0.0363)	ND (0.0398)	ND (0.0397)	NA	NA	NA
Metals										
Lead	1000	190000	450	8.18 (0.629)	6.69 (0.55)	12.2 (0.604)	10.8 (0.602)	1760 J (0.561)	1490 J (0.583)	160 J (0.574)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-BH-16-012	AOI4-BH-16-013	AOI4-BH-16-013	AOI4-BH-16-014	AOI4-BH-16-014	AOI4-BH-16-015	AOI4-BH-16-015
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-BH-16-012-0-2-20160613	AOI4-BH-16-013-0-2-20160630	AOI4-BH-16-013-13-14-20160630	AOI4-BH-16-014-0-2-20160629	AOI4-BH-16-014-13-14-20160629	AOI4-BH-16-015-0-2-20160622	AOI4-BH-16-015-13-15-20160622
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 2.0	0.0 - 2.0	13.0 - 14.0	0.0 - 2.0	13.0 - 14.0	0.0 - 2.0	13.0 - 15.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	6/13/2016	6/30/2016	6/30/2016	6/29/2016	6/29/2016	6/22/2016	6/22/2016
Comments	(0-2 ft)	(2-15 ft)	MSCs							
Volatile Organic Compounds										
Benzene	280	330	0.5	NA	0.00349 (0.00118)	ND (0.0528)	0.0626 (0.00114)	ND (0.122)	0.0023 (0.0012)	ND (0.00107)
Cumene	10000	10000	2500	NA	0.0415 (0.0118)	ND (0.528)	ND (0.0114)	ND (1.22)	ND (0.012)	ND (0.0107)
1,2-Dibromoethane	3.7	4.2	0.005	NA	ND (0.00118)	ND (0.0528)	ND (0.00114)	ND (0.122)	ND (0.0012)	ND (0.00107)
1,2-Dichloroethane	85	98	0.5	NA	ND (0.00118)	ND (0.0528)	ND (0.00114)	ND (0.122)	ND (0.0012)	ND (0.00107)
Ethyl Benzene	880	1000	70	NA	ND (0.00118)	ND (0.0528)	0.00835 (0.00114)	ND (0.122)	ND (0.0012)	ND (0.00107)
Methyl tert-butyl ether	8500	9800	2	NA	0.0452 (0.00118)	0.205 (0.0528)	0.0017 (0.00114)	ND (0.122)	ND (0.0012)	ND (0.00107)
Toluene	10000	10000	100	NA	ND (0.00589)	ND (0.264)	ND (0.00568)	ND (0.611)	ND (0.00601)	ND (0.00533)
1,2,4-Trimethylbenzene	4700	5400	300	NA	ND (0.00118)	0.327 (0.0528)	ND (0.00114)	ND (0.122)	ND (0.0012)	ND (0.00107)
1,3,5-Trimethylbenzene	4700	5400	93	NA	ND (0.00118)	0.0551 (0.0528)	ND (0.00114)	ND (0.122)	ND (0.0012)	ND (0.00107)
Xylenes (total)	7900	9100	1000	NA	ND (0.00353)	ND (0.159)	ND (0.00341)	ND (0.366)	ND (0.00361)	ND (0.0032)
Semivolatile Organic Compounds										
Anthracene	190000	190000	350	NA	ND (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Benzo(a)anthracene	130	190000	340	NA	ND (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Benzo(a)pyrene	91	190000	46	NA	ND (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Benzo(b)fluoranthene	76	190000	170	NA	ND (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Benzo(g,h,i)perylene	190000	190000	180	NA	ND (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Chrysene	760	190000	230	NA	ND (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Fluorene	130000	190000	3800	NA	ND (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	ND (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Naphthalene	66	77	25	NA	ND (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Phenanthrene	190000	190000	10000	NA	0.262 (0.194)	0.303 (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Pyrene	96000	190000	2200	NA	0.292 (0.194)	ND (0.21)	ND (0.375)	ND (0.0403)	ND (0.198)	ND (0.0352)
Metals										
Lead	1000	190000	450	1080 J (0.678)	255 (0.589)	65.1 (0.637)	57.6 (0.568)	13.9 (0.611)	310 (0.601)	17.9 (0.533)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
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4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
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NA - Not Analyzed
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J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-BH-16-018	AOI4-BH-16-018	AOI4-BH-16-022	AOI4-GP-1	AOI4-GP-1	AOI4-GP-2	AOI4-GP-2	AOI4-GP-3
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-BH-16-018-0-2-20160628	AOI4-BH-16-018-14-15-20160628	AOI4-BH-16-022-0-2-20160623	GP-1(1.5-2)	GP-1(15-15.5)	GP-2(1.5-2)	GP-2(15-15.5)	GP-3(0-2)
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 2.0	14.0 - 15.0	0.0 - 2.0	1.5 - 2.0	15.0 - 15.5	1.5 - 2.0	15.0 - 15.5	0.0 - 2.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	6/28/2016	6/28/2016	6/23/2016	5/28/2003	5/28/2003	5/28/2003	5/28/2003	5/28/2003
Comments	(0-2 ft)	(2-15 ft)	MSCs								
Volatile Organic Compounds											
Benzene	280	330	0.5	ND (0.00129)	ND (0.202)	NA	ND (0.25)	0.11 J	ND (0.23)	ND (0.26)	ND (0.31)
Cumene	10000	10000	2500	ND (0.0129)	7.88 (2.02)	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00129)	ND (0.202)	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	ND (0.00129)	ND (0.202)	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.00129)	ND (0.202)	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	8500	9800	2	ND (0.00129)	ND (0.202)	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.00646)	ND (1.01)	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.00129)	ND (0.202)	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.00129)	ND (0.202)	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	ND (0.00388)	ND (0.605)	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds											
Anthracene	190000	190000	350	ND (0.0426)	ND (0.0392)	NA	0.5	ND (0.36)	ND (1.8)	ND (0.36)	0.31 J
Benzo(a)anthracene	130	190000	340	ND (0.0426)	ND (0.0392)	NA	2	ND (0.36)	5	ND (0.36)	1.6
Benzo(a)pyrene	91	190000	46	ND (0.0426)	ND (0.0392)	NA	2.2	ND (0.36)	4.8	ND (0.36)	1.4
Benzo(b)fluoranthene	76	190000	170	ND (0.0426)	ND (0.0392)	NA	1.8	ND (0.36)	3.8	ND (0.36)	1.1
Benzo(g,h,i)perylene	190000	190000	180	ND (0.0426)	ND (0.0392)	NA	0.67	ND (0.36)	1.7 J	ND (0.36)	0.41 J
Chrysene	760	190000	230	ND (0.0426)	ND (0.0392)	NA	1.8	ND (0.36)	4.4	ND (0.36)	1.4
Fluorene	130000	190000	3800	ND (0.0426)	0.426 (0.0392)	NA	ND (0.4)	0.4	ND (1.8)	0.2 J	ND (0.42)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.0426)	ND (0.0392)	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.0426)	ND (0.0392)	NA	0.2 J	3.7	0.72	2.2	ND (0.31)
Phenanthrene	190000	190000	10000	ND (0.0426)	0.76 (0.0392)	NA	1.7	0.99	2.1	0.48	1.1
Pyrene	96000	190000	2200	ND (0.0426)	ND (0.0392)	NA	1.8	ND (0.36)	5.4	ND (0.36)	2
Metals											
Lead	1000	190000	450	6.97 (0.646)	5.91 (0.593)	644 (0.617)	NA	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
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4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

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NA - Not Analyzed
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J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-GP-3	AOI4-GP-4	AOI4-GP-4	AOI4-GP-5	AOI4-GP-5	AOI4-GP-6	AOI4-GP-6	AOI4-GP-7	AOI4-GP-7
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	GP-3(15-15.5)	GP-4(1.5-2)~5/28/03~75559	GP-4(15-15.5)	GP-5(1.5-2)~5/28/03~75559	GP-5(15-15.5)	GP-6(1.5-2)	GP-6(15.5-16)	GP-7(1.5-2)	GP-7(15.5-16)
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	15.0 - 15.5	1.5 - 2.0	15.0 - 15.5	1.5 - 2.0	15.0 - 15.5	1.5 - 2.0	15.5 - 16.0	1.5 - 2.0	15.5 - 16.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	5/28/2003	5/28/2003	5/28/2003	5/28/2003	5/28/2003	5/28/2003	5/28/2003	5/29/2003	5/29/2003
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.25)	ND (0.24)	ND (0.25)	ND (0.31)	0.14 J	ND (0.27)	ND (0.26)	ND (0.26)	0.34 J
Cumene	10000	10000	2500	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.36)	1.9 J	ND (0.37)	0.61 J	ND (0.37)	1.3	ND (0.42)	ND (2)	ND (3.7)
Benzo(a)anthracene	130	190000	340	ND (0.36)	4.1	ND (0.37)	2.1	ND (0.37)	2.7	ND (0.42)	ND (2)	ND (3.7)
Benzo(a)pyrene	91	190000	46	ND (0.36)	3.5	ND (0.37)	2.3	ND (0.37)	2.3	ND (0.42)	ND (2)	ND (3.7)
Benzo(b)fluoranthene	76	190000	170	ND (0.36)	3.2	ND (0.37)	1.8	ND (0.37)	2	ND (0.42)	1.3 J	ND (3.7)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.36)	1.2 J	ND (0.37)	0.88 J	ND (0.37)	0.77 J	ND (0.42)	ND (2)	ND (3.7)
Chrysene	760	190000	230	ND (0.36)	4	ND (0.37)	2	ND (0.37)	2.4	ND (0.42)	ND (2)	ND (3.7)
Fluorene	130000	190000	3800	ND (0.36)	ND (0.19)	0.27 J	ND (0.95)	0.25 J	0.5 J	ND (0.42)	ND (2)	2.2 J
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	0.42	ND (0.24)	0.24 J	ND (0.31)	0.37	0.13 J	ND (0.26)	ND (0.26)	25
Phenanthrene	190000	190000	10000	0.35 J	10	0.69	1.9	0.66	4.7	ND (0.42)	ND (2)	5
Pyrene	96000	190000	2200	ND (0.36)	7.3	ND (0.37)	2.4	ND (0.37)	3.6	ND (0.42)	ND (2)	ND (3.7)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
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NA - Not Analyzed
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J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-GP-7	AOI4-GP-8	AOI4-GP-8	AOI4-GP-8	AOI4-GP-9	AOI4-PE-01	AOI4-PE-02	AOI4-PE-03	AOI4-PE-04
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	GP-7(6.5-7)	GP-8(1.5-2)	GP-8(15-15.5)	GP-8(7.5-8)	GP-9(Surface)	AOI4-PE-01	AOI4-PE-02	AOI4-PE-03	AOI4-PE-04
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	6.5 - 7.0	1.5 - 2.0	15.0 - 15.5	7.5 - 8.0	0	2.0 - 2.5	2	2.0 - 2.5	2
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	5/29/2003	5/29/2003	5/29/2003	5/29/2003	5/29/2003	7/13/2018	7/13/2018	7/13/2018	7/13/2018
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	0.16 J	ND (0.28)	ND (0.24)	ND (0.26)	0.054 J	NA	NA	NA	NA
Cumene	10000	10000	2500	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (4.7)	ND (8.1)	ND (0.37)	0.5 J	ND (57)	NA	NA	NA	NA
Benzo(a)anthracene	130	190000	340	ND (4.7)	ND (8.1)	ND (0.37)	ND (0.76)	ND (57)	NA	NA	NA	NA
Benzo(a)pyrene	91	190000	46	ND (4.7)	ND (8.1)	ND (0.37)	ND (0.76)	ND (57)	NA	NA	NA	NA
Benzo(b)fluoranthene	76	190000	170	ND (4.7)	ND (8.1)	ND (0.37)	ND (0.76)	ND (57)	NA	NA	NA	NA
Benzo(g,h,i)perylene	190000	190000	180	ND (4.7)	ND (8.1)	ND (0.37)	ND (0.76)	ND (57)	NA	NA	NA	NA
Chrysene	760	190000	230	ND (4.7)	ND (8.1)	ND (0.37)	0.63 J	ND (57)	NA	NA	NA	NA
Fluorene	130000	190000	3800	17	7.6 J	ND (0.37)	0.82	ND (57)	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	9.4	40 D	ND (0.24)	0.91	0.46	NA	NA	NA	NA
Phenanthrene	190000	190000	10000	49	22	0.38	3.4	230	NA	NA	NA	NA
Pyrene	96000	190000	2200	10	4.1 J	ND (0.37)	1.3	37 J	NA	NA	NA	NA
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	8400 (8.23)	734 (1.44)	3490 (8.65)	36800 (37.9)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
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J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-PE-05	AOI4-PE-06	AOI4-PE-07	AOI4-PE-08	AOI4-PE-09	AOI4-PE-10	AOI4-PE-11	AOI4-PE-12	AOI4-PE-13
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-PE-05	AOI4-PE-06	AOI4-PE-07	AOI4-PE-08	AOI4-PE-09	AOI4-PE-10	AOI4-PE-11	AOI4-PE-12	AOI4-PE-13
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.5 - 1.0	0.5	1.0 - 1.5	1	0.5	1	1.0 - 1.5	2	2
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/13/2018	7/13/2018	7/13/2018	7/13/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018	7/23/2018
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cumene	10000	10000	2500	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	130	190000	340	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	91	190000	46	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	76	190000	170	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	190000	190000	180	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	760	190000	230	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	130000	190000	3800	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	190000	190000	10000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	96000	190000	2200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Lead	1000	190000	450	5690 (6.11)	6380 (7.27)	11.3 (1.73)	134 (1.61)	529 (6.23)	4530 (6.53)	7460 (12.6)	27100 (76.1)	16000 (31.7)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
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Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-PE-14	AOI4-PE-15	AOI4-PE-16	AOI4-PE-17	AOI4-PE-18	AOI4-PE-19	AOI4-PE-20	AOI4-PE-21	AOI4-PE-22
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-PE-14	AOI4-PE-15	AOI4-PE-16	AOI4-PE-17	AOI4-PE-18	AOI4-PE-19	AOI4-PE-20	AOI4-PE-21	AOI4-PE-22
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	2	2	2.0 - 2.5	2	2	2	2	2	2
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/30/2018	7/30/2018	7/30/2018	7/30/2018	8/7/2018	8/7/2018	8/7/2018	8/7/2018	8/7/2018
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cumene	10000	10000	2500	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	130	190000	340	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	91	190000	46	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	76	190000	170	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	190000	190000	180	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	760	190000	230	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	130000	190000	3800	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	190000	190000	10000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	96000	190000	2200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Lead	1000	190000	450	28600 (27.4)	55.3 (1.36)	105 (1.43)	4240 (13.2)	25600 (62.4)	31700 (62)	38300 (73.5)	35600 (71.4)	7500 (12.7)

Notes:

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2 Only Short List 1-6 analytes are shown.
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4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
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Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-PE-23	AOI4-PE-24	AOI4-PE-25	AOI4-PE-26	AOI4-PE-27	AOI4-PE-28	AOI4-PE-29	AOI4-PE-30	AOI4-PE-31
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-PE-23	AOI4-PE-24	AOI4-PE-25	AOI4-PE-26	AOI4-PE-27	AOI4-PE-28	AOI4-PE-29	AOI4-PE-30	AOI4-PE-31
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	2	2	2	2	2	2	2	2	2
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/7/2018	8/7/2018	8/7/2018	8/7/2018	8/7/2018	8/7/2018	8/7/2018	8/7/2018	8/7/2018
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cumene	10000	10000	2500	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	130	190000	340	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	91	190000	46	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	76	190000	170	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	190000	190000	180	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	760	190000	230	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	130000	190000	3800	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	190000	190000	10000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	96000	190000	2200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Lead	1000	190000	450	132 (1.23)	295 (1.36)	1020 (1.42)	48.6 (1.85)	162 (1.82)	126 (1.84)	855 (1.76)	97.5 (1.77)	28100 (37)

Notes:
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2 Only Short List 1-6 analytes are shown.
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4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
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Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-PE-32	AOI4-PE-33	AOI4-PE-41	AOI4-PE-43	AOI4-PE-44	AOI4-PE-45	AOI4-PE-46	AOI4-PE-49	AOI4-PE-51
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-PE-32	AOI4-PE-33	AOI4-PE-41	AOI4-PE-43	AOI4-PE-44	AOI4-PE-45	AOI4-PE-46	AOI4-PE-49	AOI4-PE-51
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	2	2	2	2	2	2	2	2	2
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/7/2018	8/7/2018	8/9/2018	8/9/2018	8/9/2018	8/9/2018	8/9/2018	8/9/2018	8/9/2018
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cumene	10000	10000	2500	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	130	190000	340	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	91	190000	46	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	76	190000	170	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	190000	190000	180	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	760	190000	230	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	130000	190000	3800	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	190000	190000	10000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	96000	190000	2200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Lead	1000	190000	450	17400 (34.6)	82.8 (1.76)	368 (1.77)	8050 (7.06)	66400 (100)	2720 (6.41)	64.4 (1.77)	205 (1.69)	13300 (35.1)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
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Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-PE-52	AOI4-PE-53	AOI4-PE-54	AOI4-PE-55	AOI4-PE-56	AOI4-PE-57	AOI4-PE-58	AOI4-PE-60	AOI4-PE-61
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-PE-52	AOI4-PE-53	AOI4-PE-54	AOI4-PE-55	AOI4-PE-56	AOI4-PE-57	AOI4-PE-58	AOI4-PE-60	AOI4-PE-61
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	2	2	2	2	2	2	2	2	2
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/9/2018	8/9/2018	8/9/2018	8/9/2018	8/9/2018	8/9/2018	8/9/2018	8/15/2018	8/15/2018
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cumene	10000	10000	2500	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	130	190000	340	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	91	190000	46	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	76	190000	170	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	190000	190000	180	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	760	190000	230	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	130000	190000	3800	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	190000	190000	10000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	96000	190000	2200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Lead	1000	190000	450	3310 (8.68)	6310 (8.88)	17400 (16.8)	11800 (16.2)	183 (9.02)	6040 (13.3)	1590 (17.4)	59600 (76.2)	2130 (145)

Notes:
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2 Only Short List 1-6 analytes are shown.
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Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	AOI4-PE-62	AOI4-PE-63	AOI4-PE-64	AOI4-PE-65	AST-845-LINE-1	AST-845-LINE-2	AST-845-LINE-3	AST-845-LINE-4	AST-845-LINE-5
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4-PE-62	AOI4-PE-63	AOI4-PE-64	AOI4-PE-65	AST-845-LINE-1	AST-845-LINE-2	AST-845-LINE-3	AST-845-LINE-4	AST-845-LINE-5
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	2	2	2	2	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/15/2018	8/15/2018	8/16/2018	8/16/2018	3/14/2007	3/14/2007	3/14/2007	3/14/2007	3/14/2007
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	NA	NA	NA	NA	ND,D (0.097)	ND,D (0.12)	ND,D (0.1)	ND,D (0.12)	ND,D (0.13)
Cumene	10000	10000	2500	NA	NA	NA	NA	ND,D (0.097)	ND,D (0.12)	ND,D (0.1)	ND,D (0.12)	ND,D (0.13)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	NA	NA	NA	NA	ND,D (0.097)	0.068 J,D (0.12)	ND,D (0.1)	ND,D (0.12)	ND,D (0.13)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	NA	NA	NA	NA	ND,D (0.097)	ND,D (0.12)	ND,D (0.1)	ND,D (0.12)	ND,D (0.13)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	ND,D (0.097)	0.077 J,D (0.12)	ND,D (0.1)	0.09 J,D (0.12)	ND,D (0.13)
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	NA	NA	NA	NA	ND (0.42)	ND (0.41)	ND (0.39)	ND (0.4)	ND (0.37)
Benzo(a)anthracene	130	190000	340	NA	NA	NA	NA	ND (0.42)	ND (0.41)	ND (0.39)	ND (0.4)	0.49 (0.37)
Benzo(a)pyrene	91	190000	46	NA	NA	NA	NA	ND (0.42)	ND (0.41)	ND (0.39)	ND (0.4)	ND (0.37)
Benzo(b)fluoranthene	76	190000	170	NA	NA	NA	NA	ND (0.42)	ND (0.41)	ND (0.39)	0.47 (0.4)	0.53 (0.37)
Benzo(g,h,i)perylene	190000	190000	180	NA	NA	NA	NA	ND (0.42)	ND (0.41)	ND (0.39)	ND (0.4)	ND (0.37)
Chrysene	760	190000	230	NA	NA	NA	NA	ND (0.42)	0.45 (0.41)	ND (0.39)	ND (0.4)	0.49 (0.37)
Fluorene	130000	190000	3800	NA	NA	NA	NA	ND (0.42)	ND (0.41)	ND (0.39)	ND (0.4)	ND (0.37)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	ND (0.42)	ND (0.41)	ND (0.39)	ND (0.4)	ND (0.37)
Naphthalene	66	77	25	NA	NA	NA	NA	ND,D (0.097)	ND,D (0.12)	ND,D (0.1)	ND,D (0.12)	ND,D (0.13)
Phenanthrene	190000	190000	10000	NA	NA	NA	NA	ND (0.42)	0.64 (0.41)	ND (0.39)	ND (0.4)	0.66 (0.37)
Pyrene	96000	190000	2200	NA	NA	NA	NA	ND (0.42)	0.64 (0.41)	0.45 (0.39)	0.62 (0.4)	1 (0.37)
Metals												
Lead	1000	190000	450	29100 (74.4)	1370 (13.6)	10600 (16.9)	22500 (34.9)	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
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4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	MW-1	MW-1	MW-2	MW-3	MW-3	MW-4	MW-4	PB-252-LINE-1	PB-252-LINE-2
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	MW-1(1.5-2)	MW-1(11.5-12)	MW-2(0-2)	MW-3(1.5-2)	MW-3(15.5-16)	MW-4(1.5-2)	MW-4(11.5-12)	PB-252-LINE-1	PB-252-LINE-2
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	1.5 - 2.0	11.5 - 12.0	0.0 - 2.0	1.5 - 2.0	15.5 - 16.0	1.5 - 2.0	11.5 - 12.0	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	5/29/2003	5/29/2003	5/29/2003	5/29/2003	5/29/2003	5/29/2003	5/29/2003	5/30/2007	5/30/2007
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.24)	ND (0.26)	0.087 J	ND (0.25)	0.065 J	0.054 J	ND (0.25)	ND,D (0.28)	ND,D (0.21)
Cumene	10000	10000	2500	NA	NA	NA	NA	NA	NA	NA	ND,D (0.28)	ND,D (0.21)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	NA	NA	NA	NA	NA	NA	NA	0.15 J,D (0.28)	ND,D (0.21)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	NA	NA	NA	NA	NA	NA	NA	ND,D (0.28)	ND,D (0.21)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	0.88	ND (0.36)	0.29 J	0.35 J	ND (0.36)	0.33 J	ND (0.41)	NA	NA
Benzo(a)anthracene	130	190000	340	2.1	ND (0.36)	0.73	2.7	ND (0.36)	0.93	ND (0.41)	NA	NA
Benzo(a)pyrene	91	190000	46	1.9	ND (0.36)	0.8	5 D	ND (0.36)	1.1	ND (0.41)	NA	NA
Benzo(b)fluoranthene	76	190000	170	2	ND (0.36)	0.69	3.9	ND (0.36)	0.98	ND (0.41)	NA	NA
Benzo(g,h,i)perylene	190000	190000	180	0.71	ND (0.36)	0.37 J	1.8	ND (0.36)	0.5	ND (0.41)	NA	NA
Chrysene	760	190000	230	2.1	ND (0.36)	0.73	2.5	ND (0.36)	0.91	ND (0.41)	NA	NA
Fluorene	130000	190000	3800	0.39	ND (0.36)	ND (0.39)	ND (0.37)	0.6	ND (0.39)	ND (0.41)	ND (0.36)	ND (0.36)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.24)	ND (0.26)	0.055 J	ND (0.25)	3.4	0.075 J	ND (0.25)	ND,D (0.28)	0.17 J,D (0.21)
Phenanthrene	190000	190000	10000	3.1	ND (0.36)	1.1	0.86	1.4	1.2	ND (0.41)	ND (0.36)	0.55 (0.36)
Pyrene	96000	190000	2200	3.2	ND (0.36)	1.2	1.8	ND (0.36)	1.1	0.26 J	NA	NA
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
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4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-252-LINE-4	PB-252-LINE-5	PB-252-LINE-6	PB-252-PER-1	PB-252-PER-2	PB-252-PER-3	PB-252-PER-4	PB-252-PER-5	PB-252-PER-6
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-252-LINE-4	PB-252-LINE-5	PB-252-LINE-6	PB-252-PER-1	PB-252-PER-2	PB-252-PER-3	PB-252-PER-4	PB-252-PER-5	PB-252-PER-6
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	6.0 - 6.5	6.0 - 6.5	6.0 - 6.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	22 D (1.7)	1.6 D (0.15)	0.71 D (0.18)	10 D (1.7)	2.2 D (0.17)	0.72 D (0.19)	1.7 D (0.18)	2.1 D (0.16)	4.7 D (0.18)
Cumene	10000	10000	2500	11 D (1.7)	9.9 D (1.5)	14 D (0.18)	7.5 D (1.7)	12 D (0.17)	11 D (0.19)	6.4 D (0.18)	2.7 D (0.16)	2.3 D (0.18)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	73 D (1.7)	63 D (1.5)	6.7 D (0.18)	37 D (1.7)	35 D (1.7)	23 D (1.9)	18 D (1.8)	6.4 D (0.16)	9.3 D (0.18)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	94 D (1.7)	51 D (1.5)	0.45 D (0.18)	7.5 D (1.7)	0.42 D (0.17)	0.59 D (0.19)	0.72 D (0.18)	0.3 D (0.16)	2.7 D (0.18)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	130	190000	340	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	91	190000	46	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	76	190000	170	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	190000	190000	180	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	760	190000	230	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	130000	190000	3800	1.6 (0.42)	2.6 (0.41)	2.1 (0.41)	ND (0.4)	ND (0.38)	ND (0.42)	ND (0.42)	4.2 (0.39)	0.42 (0.39)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	49 D (1.7)	43 D (1.5)	7.9 D (0.18)	29 D (1.7)	4.8 D (0.17)	29 D (1.9)	12 D (0.18)	26 D (1.6)	3.8 D (0.18)
Phenanthrene	190000	190000	10000	2.5 (0.42)	4.4 (0.41)	4.1 (0.41)	7.9 D (0.79)	0.48 (0.38)	0.23 J (0.42)	3.9 (0.42)	14 D (2)	1 (0.39)
Pyrene	96000	190000	2200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
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4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
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Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-252-SUB-1	PB-252-SUB-2	PB-252-SUB-3	PB-826-1	PB-826-2	PB-826-3	PB-826-4	PB-826-5	PB-826-6
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-252-SUB-1	PB-252-SUB-2	PB-252-SUB-3	826-1	826-2	826-3	826-4	826-5	826-6
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	5.0 - 5.5	5.0 - 5.5	5.0 - 5.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	5/30/2007	5/30/2007	5/30/2007	9/7/2004	9/7/2004	9/7/2004	9/7/2004	9/7/2004	9/7/2004
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND,D (0.26)	4.7 D (0.31)	ND,D (0.3)	ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.002)	ND (0.0019)	ND (0.0021)
Cumene	10000	10000	2500	ND,D (0.26)	11 D (0.31)	ND,D (0.3)	ND (0.0047)	ND (0.0049)	ND (0.0048)	ND (0.005)	ND (0.0049)	ND (0.0052)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND,D (0.26)	44 D (3.1)	ND,D (0.3)	ND (0.0019)	0.0025 J (0.002)	0.0022 J (0.0019)	ND (0.002)	ND (0.0019)	ND (0.0021)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND,D (0.26)	5.2 D (0.31)	ND,D (0.3)	0.0027 J (0.0019)	0.0054 (0.002)	0.0043 J (0.0019)	ND (0.002)	0.0027 J (0.0019)	ND (0.0021)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	NA	NA	NA	0.068 (0.0034)	0.23 (0.0035)	0.023 J (0.0034)	0.016 (0.00072)	0.0056 J (0.00069)	0.00085 J (0.0007)
Benzo(a)anthracene	130	190000	340	NA	NA	NA	0.24 (0.0075)	0.88 (0.031)	0.11 (0.0076)	0.083 (0.0016)	0.027 (0.0015)	0.0056 J (0.0016)
Benzo(a)pyrene	91	190000	46	NA	NA	NA	0.25 (0.011)	0.8 (0.046)	0.16 (0.011)	0.1 (0.0024)	0.032 (0.0023)	0.0085 J (0.0023)
Benzo(b)fluoranthene	76	190000	170	NA	NA	NA	0.21 (0.015)	0.71 (0.062)	0.13 (0.015)	0.086 (0.0032)	0.027 (0.0031)	0.0069 J (0.0031)
Benzo(g,h,i)perylene	190000	190000	180	NA	NA	NA	0.42 (0.015)	1 (0.015)	0.28 (0.015)	0.17 (0.0032)	0.052 (0.0031)	0.013 J (0.0031)
Chrysene	760	190000	230	NA	NA	NA	0.23 (0.011)	0.82 (0.012)	0.13 (0.011)	0.089 (0.0024)	0.028 (0.0023)	0.0064 J (0.0023)
Fluorene	130000	190000	3800	ND (0.38)	ND (0.41)	ND (0.43)	0.033 J (0.023)	0.11 J (0.023)	ND (0.023)	0.012 J (0.0048)	ND (0.0046)	ND (0.0047)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	0.097 (0.019)	0.5 (0.019)	0.071 J (0.019)	0.046 (0.004)	0.024 (0.0039)	0.004 J (0.0039)
Naphthalene	66	77	25	0.26 J,D (0.26)	24 D (0.31)	ND,D (0.3)	ND (0.0095)	0.016 J (0.0098)	0.015 J (0.0096)	ND (0.01)	ND (0.0097)	ND (0.01)
Phenanthrene	190000	190000	10000	ND (0.38)	ND (0.41)	ND (0.43)	0.39 (0.011)	1.5 (0.012)	0.15 (0.011)	0.12 (0.0024)	0.031 (0.0023)	0.0059 J (0.0023)
Pyrene	96000	190000	2200	NA	NA	NA	0.78 (0.026)	2.4 (0.027)	0.44 (0.027)	0.25 (0.0056)	0.076 (0.0054)	0.017 J (0.0055)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
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Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-826-7	PB-826-8	PB-826-9	PB-843 LINE 1	PB-843 LINE 2	PB-843 LINE 3	PB-843 LINE 4	PB-843 LINE 5	PB-843 LINE 6
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	826-7	826-8	826-9	843 Line 1	843 Line 2	843 Line 3	843 Line 4	843 Line 5	843 Line 6
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	9/7/2004	9/7/2004	9/7/2004	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.0021)	ND (0.0021)	ND (0.002)	ND (0.028)	ND (0.028)	ND (0.026)	ND (0.025)	ND (0.027)	ND (0.029)
Cumene	10000	10000	2500	ND (0.0052)	ND (0.0052)	ND (0.005)	0.11 J (0.056)	ND (0.055)	ND (0.052)	ND (0.05)	ND (0.055)	1.4 (0.057)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.0021)	0.0048 J (0.0021)	ND (0.002)	ND (0.056)	ND (0.055)	ND (0.052)	ND (0.05)	ND (0.055)	ND (0.057)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.0021)	0.0081 (0.0021)	0.0036 J (0.002)	ND (0.056)	ND (0.055)	ND (0.052)	ND (0.05)	ND (0.055)	ND (0.057)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.00071)	0.023 J (0.0034)	0.025 (0.00068)	0.14 J (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.078)
Benzo(a)anthracene	130	190000	340	0.0041 J (0.0016)	0.11 (0.0075)	0.048 (0.0015)	0.12 J (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	0.13 J (0.078)
Benzo(a)pyrene	91	190000	46	0.0061 J (0.0024)	0.11 (0.011)	0.047 (0.0023)	0.067 J (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	0.1 J (0.078)
Benzo(b)fluoranthene	76	190000	170	0.0048 J (0.0031)	0.11 (0.015)	0.047 (0.003)	0.086 J (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	0.1 J (0.078)
Benzo(g,h,i)perylene	190000	190000	180	0.011 J (0.0031)	0.17 (0.015)	0.068 (0.003)	ND (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.078)
Chrysene	760	190000	230	0.0053 J (0.0024)	0.098 (0.011)	0.074 (0.0023)	0.1 J (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	0.23 J (0.078)
Fluorene	130000	190000	3800	ND (0.0047)	ND (0.023)	0.021 J (0.0045)	0.39 (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	1 (0.078)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.0039)	0.06 J (0.019)	0.02 (0.0038)	ND (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.078)
Naphthalene	66	77	25	ND (0.01)	ND (0.01)	ND (0.0099)	ND (0.056)	ND (0.055)	ND (0.052)	ND (0.05)	ND (0.055)	0.067 J (0.057)
Phenanthrene	190000	190000	10000	0.0051 J (0.0024)	0.13 (0.011)	0.18 (0.0023)	0.8 (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	2.2 (0.078)
Pyrene	96000	190000	2200	0.014 J (0.0055)	0.28 (0.026)	0.17 (0.0053)	0.31 (0.038)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	0.37 J (0.078)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-843 LINE 7	PB-843 LINE 8	PB-843 LINE 9	PB-843 PERIMETER 1	PB-843 PERIMETER 2	PB-843 PERIMETER 3	PB-843 PERIMETER 4	PB-843 PERIMETER 5	PB-843 PERIMETER 6
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	843 Line 7	843 Line 8	843 Line 9	843 Perimeter 1	843 Perimeter 2	843 Perimeter 3	843 Perimeter 4	843 Perimeter 5	843 Perimeter 6
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.025)	ND (0.027)	0.035 J (0.026)	ND (0.031)	0.037 J (0.028)	ND (0.026)	ND (0.024)	ND (0.024)	ND (0.024)
Cumene	10000	10000	2500	ND (0.049)	ND (0.055)	ND (0.052)	ND (0.063)	ND (0.055)	ND (0.053)	ND (0.049)	ND (0.047)	ND (0.048)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.049)	ND (0.055)	ND (0.052)	ND (0.063)	ND (0.055)	ND (0.053)	ND (0.049)	ND (0.047)	ND (0.048)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.049)	ND (0.055)	ND (0.052)	ND (0.063)	ND (0.055)	ND (0.053)	ND (0.049)	ND (0.047)	ND (0.048)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.037)	ND (0.18)	ND (0.037)	ND (0.04)	0.6 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Benzo(a)anthracene	130	190000	340	0.31 (0.037)	0.34 J (0.18)	0.087 J (0.037)	ND (0.04)	0.86 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Benzo(a)pyrene	91	190000	46	0.34 (0.037)	0.4 J (0.18)	0.065 J (0.037)	ND (0.04)	0.51 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Benzo(b)fluoranthene	76	190000	170	0.49 (0.037)	0.62 J (0.18)	0.099 J (0.037)	ND (0.04)	0.64 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Benzo(g,h,i)perylene	190000	190000	180	0.28 (0.037)	0.57 J (0.18)	0.085 J (0.037)	ND (0.04)	0.23 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Chrysene	760	190000	230	0.41 (0.037)	0.47 J (0.18)	0.11 J (0.037)	ND (0.04)	0.77 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Fluorene	130000	190000	3800	ND (0.037)	ND (0.18)	ND (0.037)	ND (0.04)	0.3 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Indeno(1,2,3-cd)pyrene	76	190000	18000	0.3 (0.037)	0.4 J (0.18)	0.054 J (0.037)	ND (0.04)	0.28 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Naphthalene	66	77	25	ND (0.049)	ND (0.055)	ND (0.052)	ND (0.063)	ND (0.055)	ND (0.053)	ND (0.049)	ND (0.047)	ND (0.048)
Phenanthrene	190000	190000	10000	0.14 J (0.037)	0.26 J (0.18)	0.16 J (0.037)	ND (0.04)	2.1 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Pyrene	96000	190000	2200	0.49 (0.037)	0.53 J (0.18)	0.17 J (0.037)	ND (0.04)	1.5 (0.039)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.038)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-843 SUB 1	PB-843 SUB 2	PB-843 SUB 3	PB-844 LINE 1	PB-844 LINE 10	PB-844 LINE 2	PB-844 LINE 3	PB-844 LINE 4	PB-844 LINE 5
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	843 Sub 1	843 Sub 2	843 Sub 3	844 Line 1	844 Line 10	844 Line 2	844 Line 3	844 Line 4	844 Line 5
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	5.0 - 5.5	5.0 - 5.5	5.0 - 5.5	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.023)	ND (0.024)	ND (0.023)	ND (0.027)	2.4 (0.096)	ND (0.026)	ND (0.029)	ND (0.03)	0.034 J (0.029)
Cumene	10000	10000	2500	ND (0.045)	ND (0.048)	ND (0.047)	ND (0.055)	4.2 (0.19)	ND (0.053)	ND (0.057)	ND (0.06)	ND (0.058)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.045)	ND (0.048)	ND (0.047)	ND (0.055)	8.3 (0.19)	ND (0.053)	ND (0.057)	ND (0.06)	ND (0.058)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.045)	ND (0.048)	ND (0.047)	ND (0.055)	ND (0.19)	ND (0.053)	ND (0.057)	ND (0.06)	ND (0.058)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	4 (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	0.078 J (0.041)
Benzo(a)anthracene	130	190000	340	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	0.54 (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	0.31 (0.041)
Benzo(a)pyrene	91	190000	46	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	0.1 J (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	0.31 (0.041)
Benzo(b)fluoranthene	76	190000	170	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	0.066 J (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	0.32 (0.041)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	ND (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	0.17 J (0.041)
Chrysene	760	190000	230	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	0.56 (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	0.27 (0.041)
Fluorene	130000	190000	3800	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	2.2 (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	ND (0.041)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	0.038 J (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	0.16 J (0.041)
Naphthalene	66	77	25	ND (0.045)	ND (0.048)	ND (0.047)	ND (0.055)	12 (0.19)	ND (0.053)	ND (0.057)	ND (0.06)	ND (0.058)
Phenanthrene	190000	190000	10000	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	4.1 (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	0.23 (0.041)
Pyrene	96000	190000	2200	ND (0.035)	ND (0.037)	ND (0.037)	ND (0.041)	0.43 (0.036)	ND (0.037)	ND (0.041)	ND (0.041)	0.29 (0.041)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-844 LINE 6	PB-844 LINE 7	PB-844 LINE 8	PB-844 LINE 9	PB-844 PERIMETER 1	PB-844 PERIMETER 2	PB-844 PERIMETER 3	PB-844 PERIMETER 4	PB-844 PERIMETER 5
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	844 Line 6	844 Line 7	844 Line 8	844 Line 9	844 Perimeter 1	844 Perimeter 2	844 Perimeter 3	844 Perimeter 4	844 Perimeter 5
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/23/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.03)	ND (0.029)	0.067 J (0.027)	0.035 J (0.027)	ND (0.026)	ND (0.029)	ND (0.026)	0.38 (0.031)	ND (0.027)
Cumene	10000	10000	2500	ND (0.061)	ND (0.058)	ND (0.054)	0.34 (0.054)	ND (0.052)	ND (0.058)	ND (0.053)	ND (0.061)	0.073 J (0.053)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.061)	ND (0.058)	ND (0.054)	0.22 J (0.054)	ND (0.052)	ND (0.058)	ND (0.053)	0.32 (0.061)	ND (0.053)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.061)	ND (0.058)	ND (0.054)	ND (0.054)	ND (0.052)	ND (0.058)	ND (0.053)	0.52 (0.061)	ND (0.053)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.041)	ND (0.04)	ND (0.04)	ND (0.041)	0.17 J (0.038)	0.25 (0.039)	0.15 J (0.039)	0.92 (0.042)	0.48 (0.039)
Benzo(a)anthracene	130	190000	340	ND (0.041)	0.057 J (0.04)	0.11 J (0.04)	0.17 J (0.041)	0.57 (0.038)	0.64 (0.039)	0.53 (0.039)	2.3 (0.042)	0.11 J (0.039)
Benzo(a)pyrene	91	190000	46	ND (0.041)	0.054 J (0.04)	0.11 J (0.04)	0.2 (0.041)	0.68 (0.038)	0.51 (0.039)	0.5 (0.039)	1.8 (0.042)	0.068 J (0.039)
Benzo(b)fluoranthene	76	190000	170	ND (0.041)	0.054 J (0.04)	0.13 J (0.04)	0.19 J (0.041)	0.72 (0.038)	0.56 (0.039)	0.53 (0.039)	2.1 (0.042)	0.093 J (0.039)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.041)	ND (0.04)	0.082 J (0.04)	0.15 J (0.041)	0.44 (0.038)	0.32 (0.039)	0.28 (0.039)	1 (0.042)	ND (0.039)
Chrysene	760	190000	230	ND (0.041)	0.056 J (0.04)	0.12 J (0.04)	0.45 (0.041)	0.52 (0.038)	0.6 (0.039)	0.49 (0.039)	1.9 (0.042)	0.12 J (0.039)
Fluorene	130000	190000	3800	ND (0.041)	ND (0.04)	ND (0.04)	0.97 (0.041)	0.075 J (0.038)	0.1 J (0.039)	0.075 J (0.039)	0.42 (0.042)	1.2 (0.039)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.041)	ND (0.04)	0.073 J (0.04)	0.14 J (0.041)	0.54 (0.038)	0.35 (0.039)	0.32 (0.039)	1.2 (0.042)	0.048 J (0.039)
Naphthalene	66	77	25	ND (0.061)	ND (0.058)	ND (0.054)	0.95 (0.054)	ND (0.052)	ND (0.058)	ND (0.053)	0.13 J (0.061)	ND (0.053)
Phenanthrene	190000	190000	10000	ND (0.041)	0.056 J (0.04)	0.076 J (0.04)	1.9 (0.041)	0.55 (0.038)	0.71 (0.039)	0.6 (0.039)	3 (0.042)	3.4 (0.039)
Pyrene	96000	190000	2200	ND (0.041)	0.069 J (0.04)	0.14 J (0.04)	0.32 (0.041)	0.62 (0.038)	0.9 (0.039)	0.66 (0.039)	3 (0.042)	0.38 (0.039)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-844 PERIMETER 6	PB-844 SUB 1	PB-844 SUB 2	PB-844 SUB 3	PB-845 PERIMETER 1	PB-845 PERIMETER 2	PB-845 PERIMETER 3	PB-845 PERIMETER 4	PB-845 PERIMETER 5
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	844 Perimeter 6	844 Sub 1	844 Sub 2	844 Sub 3	845 Perimeter 1	845 Perimeter 2	845 Perimeter 3	845 Perimeter 4	845 Perimeter 5
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	3.0 - 3.5	5.0 - 5.5	5.0 - 5.5	5.0 - 5.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/23/2006	8/23/2006	8/23/2006	8/23/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.027)	0.031 J (0.026)	ND (0.028)	0.095 J (0.027)	ND (0.028)	ND (0.026)	ND (0.029)	ND (0.028)	ND (0.029)
Cumene	10000	10000	2500	ND (0.054)	ND (0.052)	ND (0.056)	ND (0.054)	ND (0.057)	ND (0.052)	ND (0.057)	ND (0.056)	0.18 J (0.057)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.054)	ND (0.052)	ND (0.056)	ND (0.054)	ND (0.057)	ND (0.052)	ND (0.057)	ND (0.056)	ND (0.057)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.054)	ND (0.052)	ND (0.056)	0.078 J (0.054)	ND (0.057)	ND (0.052)	ND (0.057)	ND (0.056)	ND (0.057)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	0.32 (0.038)	0.14 J (0.04)	ND (0.04)	0.078 J (0.039)	ND (0.04)	1.2 (0.039)	0.43 (0.039)	0.24 (0.038)	ND (0.2)
Benzo(a)anthracene	130	190000	340	0.78 (0.038)	0.21 (0.04)	ND (0.04)	0.11 J (0.039)	ND (0.04)	2.8 (0.039)	1.5 (0.039)	0.75 (0.038)	0.59 J (0.2)
Benzo(a)pyrene	91	190000	46	0.69 (0.038)	0.14 J (0.04)	ND (0.04)	0.089 J (0.039)	0.044 J (0.04)	2.3 (0.039)	1.4 (0.039)	0.68 (0.038)	0.65 J (0.2)
Benzo(b)fluoranthene	76	190000	170	0.87 (0.038)	0.15 J (0.04)	ND (0.04)	0.097 J (0.039)	0.05 J (0.04)	2.8 (0.039)	1.6 (0.039)	0.88 (0.038)	1.2 (0.2)
Benzo(g,h,i)perylene	190000	190000	180	0.42 (0.038)	0.073 J (0.04)	ND (0.04)	0.13 J (0.039)	0.056 J (0.04)	1.4 (0.039)	0.84 (0.039)	0.46 (0.038)	0.72 J (0.2)
Chrysene	760	190000	230	0.74 (0.038)	0.2 (0.04)	ND (0.04)	0.15 J (0.039)	0.068 J (0.04)	2.8 (0.039)	1.5 (0.039)	0.74 (0.038)	3.1 (0.2)
Fluorene	130000	190000	3800	0.15 J (0.038)	0.067 J (0.04)	ND (0.04)	ND (0.039)	ND (0.04)	0.51 (0.039)	0.18 J (0.039)	0.13 J (0.038)	0.59 J (0.2)
Indeno(1,2,3-cd)pyrene	76	190000	18000	0.49 (0.038)	0.087 J (0.04)	ND (0.04)	0.088 J (0.039)	ND (0.04)	1.4 (0.039)	0.81 (0.039)	0.43 (0.038)	0.48 J (0.2)
Naphthalene	66	77	25	ND (0.054)	ND (0.052)	ND (0.056)	ND (0.054)	ND (0.057)	0.12 J (0.052)	ND (0.057)	ND (0.056)	1.2 (0.057)
Phenanthrene	190000	190000	10000	1 (0.038)	0.52 (0.04)	ND (0.04)	0.18 J (0.039)	ND (0.04)	4.3 (0.078)	2 (0.039)	0.97 (0.038)	1.8 (0.2)
Pyrene	96000	190000	2200	1.1 (0.038)	0.37 (0.04)	ND (0.04)	0.17 J (0.039)	0.057 J (0.04)	4.4 (0.078)	2.6 (0.039)	1.3 (0.038)	2 (0.2)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-845 SUB 1	PB-845 SUB 2	PB-845 SUB 3	PB-845-PER-6	PB-846 LINE 1	PB-846 LINE 2	PB-846 LINE 3	PB-846 LINE 4	PB-846 LINE 5
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	845 Sub 1	845 Sub 2	845 Sub 3	PB-845-PER-6	846 Line 1	846 Line 2	846 Line 3	846 Line 4	846 Line 5
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	5.0 - 5.5	5.0 - 5.5	5.0 - 5.5	3.0 - 3.5	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/24/2006	8/24/2006	8/24/2006	2/12/2008	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.028)	ND (0.029)	ND (0.027)	ND (0.025)	ND (0.026)	ND (0.027)	ND (0.028)	0.037 J (0.029)	0.22 J (0.027)
Cumene	10000	10000	2500	ND (0.055)	ND (0.058)	ND (0.054)	ND (0.05)	ND (0.051)	ND (0.054)	ND (0.055)	0.16 J (0.059)	0.29 (0.054)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.055)	ND (0.058)	ND (0.054)	ND (0.05)	ND (0.051)	ND (0.054)	ND (0.055)	ND (0.059)	0.62 (0.054)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.055)	ND (0.058)	ND (0.054)	ND (0.05)	ND (0.051)	ND (0.054)	ND (0.055)	ND (0.059)	0.12 J (0.054)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	0.4 (0.039)	0.11 J (0.04)	0.59 (0.038)	ND (0.036)	0.038 J (0.035)	ND (0.036)	ND (0.039)	0.12 J (0.036)	0.16 J (0.039)
Benzo(a)anthracene	130	190000	340	1.2 (0.039)	0.11 J (0.04)	0.64 (0.038)	ND (0.036)	0.066 J (0.035)	ND (0.036)	ND (0.039)	0.1 J (0.036)	0.38 (0.039)
Benzo(a)pyrene	91	190000	46	0.86 (0.039)	0.085 J (0.04)	0.44 (0.038)	0.052 J (0.036)	0.05 J (0.035)	ND (0.036)	ND (0.039)	0.038 J (0.036)	0.32 (0.039)
Benzo(b)fluoranthene	76	190000	170	1.2 (0.039)	0.12 J (0.04)	0.65 (0.038)	0.064 J (0.036)	0.063 J (0.035)	ND (0.036)	ND (0.039)	0.061 J (0.036)	0.43 (0.039)
Benzo(g,h,i)perylene	190000	190000	180	0.48 (0.039)	0.051 J (0.04)	0.25 (0.038)	0.074 J (0.036)	ND (0.035)	ND (0.036)	ND (0.039)	ND (0.036)	0.21 (0.039)
Chrysene	760	190000	230	1.2 (0.039)	0.14 J (0.04)	0.66 (0.038)	0.064 J (0.036)	0.067 J (0.035)	ND (0.036)	ND (0.039)	0.29 (0.036)	0.51 (0.039)
Fluorene	130000	190000	3800	0.19 J (0.039)	0.19 J (0.04)	0.52 (0.038)	ND (0.036)	ND (0.035)	ND (0.036)	ND (0.039)	0.73 (0.036)	0.38 (0.039)
Indeno(1,2,3-cd)pyrene	76	190000	18000	0.53 (0.039)	0.061 J (0.04)	0.27 (0.038)	0.039 J (0.036)	ND (0.035)	ND (0.036)	ND (0.039)	ND (0.036)	0.2 (0.039)
Naphthalene	66	77	25	0.067 J (0.055)	0.31 (0.058)	0.45 (0.054)	0.074 J (0.05)	0.14 J (0.051)	ND (0.054)	ND (0.055)	0.14 J (0.059)	0.76 (0.054)
Phenanthrene	190000	190000	10000	1.7 (0.039)	0.62 (0.04)	1.9 (0.038)	ND (0.036)	0.12 J (0.035)	ND (0.036)	ND (0.039)	1.9 (0.036)	1.6 (0.039)
Pyrene	96000	190000	2200	2.2 (0.039)	0.28 (0.04)	1.3 (0.038)	0.046 J (0.036)	0.12 J (0.035)	0.045 J (0.036)	ND (0.039)	0.3 (0.036)	0.68 (0.039)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-846 LINE 6	PB-846 LINE 7	PB-846 PERIMETER 1	PB-846 PERIMETER 2	PB-846 PERIMETER 3	PB-846 PERIMETER 4	PB-846 PERIMETER 5	PB-846 PERIMETER 6	PB-846 SUB 1
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	846 Line 6	846 Line 7	846 Perimeter 1	846 Perimeter 2	846 Perimeter 3	846 Perimeter 4	846 Perimeter 5	846 Perimeter 6	846 Sub 1
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	5.5 - 6.0	5.5 - 6.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	5.0 - 5.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	0.12 J (0.026)	0.029 J (0.028)	5 (0.027)	0.039 J (0.026)	ND (0.027)	ND (0.028)	ND (0.026)	0.12 J (0.026)	ND (0.025)
Cumene	10000	10000	2500	ND (0.052)	ND (0.056)	6.5 (0.053)	ND (0.052)	ND (0.054)	ND (0.057)	ND (0.052)	0.063 J (0.052)	ND (0.049)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.052)	ND (0.056)	1.8 (0.053)	ND (0.052)	ND (0.054)	ND (0.057)	ND (0.052)	0.063 J (0.052)	ND (0.049)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	0.1 J (0.052)	ND (0.056)	0.28 (0.053)	ND (0.052)	ND (0.054)	ND (0.057)	ND (0.052)	ND (0.052)	ND (0.049)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	0.24 (0.035)	0.22 (0.038)	2 (0.038)	0.086 J (0.039)	1.5 (0.039)	0.19 J (0.039)	ND (0.039)	2 (0.039)	ND (0.038)
Benzo(a)anthracene	130	190000	340	0.37 (0.035)	0.58 (0.038)	3.4 (0.038)	0.17 J (0.039)	3.9 (0.039)	1.3 (0.039)	ND (0.039)	3.5 (0.039)	ND (0.038)
Benzo(a)pyrene	91	190000	46	0.2 (0.035)	0.49 (0.038)	2.6 (0.038)	0.16 J (0.039)	3.3 (0.039)	1.4 (0.039)	ND (0.039)	2.4 (0.039)	ND (0.038)
Benzo(b)fluoranthene	76	190000	170	0.3 (0.035)	0.65 (0.038)	3.1 (0.038)	0.26 (0.039)	4.4 (0.039)	1.8 (0.039)	ND (0.039)	3.2 (0.039)	ND (0.038)
Benzo(g,h,i)perylene	190000	190000	180	0.12 J (0.035)	0.34 (0.038)	1.4 (0.038)	0.2 (0.039)	1.8 (0.039)	0.63 (0.039)	ND (0.039)	1.4 (0.039)	ND (0.038)
Chrysene	760	190000	230	0.85 (0.035)	0.55 (0.038)	4 (0.038)	0.28 (0.039)	3.6 (0.039)	1.1 (0.039)	ND (0.039)	3.4 (0.039)	ND (0.038)
Fluorene	130000	190000	3800	0.55 (0.035)	0.14 J (0.038)	4.2 (0.038)	0.09 J (0.039)	0.57 (0.039)	0.11 J (0.039)	ND (0.039)	1.7 (0.039)	ND (0.038)
Indeno(1,2,3-cd)pyrene	76	190000	18000	0.096 J (0.035)	0.33 (0.038)	1.4 (0.038)	0.13 J (0.039)	1.9 (0.039)	0.73 (0.039)	ND (0.039)	1.4 (0.039)	ND (0.038)
Naphthalene	66	77	25	0.062 J (0.052)	0.1 J (0.056)	2.3 (0.053)	0.095 J (0.052)	0.16 J (0.054)	ND (0.057)	ND (0.052)	1.1 (0.052)	ND (0.049)
Phenanthrene	190000	190000	10000	1.4 (0.035)	0.73 (0.038)	9.3 (0.19)	0.3 (0.039)	4.9 (0.19)	0.69 (0.039)	ND (0.039)	9.1 (0.2)	ND (0.038)
Pyrene	96000	190000	2200	0.88 (0.035)	1 (0.038)	4.1 (0.038)	0.35 (0.039)	6.3 (0.19)	1.1 (0.039)	ND (0.039)	7.2 (0.2)	ND (0.038)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-846 SUB 2	PB-846 SUB 3	PB-847-1	PB-847-2	PB-847-3	PB-847-4	PB-847-5	PB-847-6	PB-848 LINE 1
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	846 Sub 2	846 Sub 3	AST-847-1/0-0.5	AST-847-2/0-0.5	AST-847-3/0-0.5	AST-847-4/0-0.5	AST-847-5/0-0.5	AST-847-6/0-0.5	848 Line 1
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	5.0 - 5.5	5.0 - 5.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/24/2006	8/24/2006	10/16/2006	10/16/2006	10/16/2006	10/16/2006	10/16/2006	10/16/2006	8/24/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.025)	0.027 J (0.026)	ND (0.028)	ND (0.028)	ND (0.027)	ND (0.028)	ND (0.028)	ND (0.028)	ND (0.025)
Cumene	10000	10000	2500	ND (0.05)	ND (0.053)	ND (0.056)	ND (0.057)	ND (0.054)	ND (0.057)	ND (0.055)	ND (0.056)	ND (0.05)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.05)	ND (0.053)	ND (0.056)	ND (0.057)	ND (0.054)	ND (0.057)	ND (0.055)	ND (0.056)	ND (0.05)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.05)	ND (0.053)	ND (0.056)	ND (0.057)	ND (0.054)	ND (0.057)	ND (0.055)	ND (0.056)	ND (0.05)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	ND (0.056)	ND (0.057)	ND (0.054)	ND (0.057)	ND (0.055)	ND (0.056)	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.036)	1.6 (0.04)	ND (0.036)	0.061 J (0.038)	ND (0.038)	ND (0.039)	ND (0.038)	ND (0.039)	ND (0.18)
Benzo(a)anthracene	130	190000	340	ND (0.036)	3.8 (0.04)	ND (0.036)	0.17 J (0.038)	ND (0.038)	ND (0.039)	ND (0.038)	ND (0.039)	ND (0.18)
Benzo(a)pyrene	91	190000	46	ND (0.036)	2.9 (0.04)	ND (0.036)	0.18 J (0.038)	ND (0.038)	ND (0.039)	ND (0.038)	ND (0.039)	0.23 J (0.18)
Benzo(b)fluoranthene	76	190000	170	ND (0.036)	3.6 (0.04)	0.046 J (0.036)	0.16 J (0.038)	ND (0.038)	ND (0.039)	0.043 J (0.038)	ND (0.039)	ND (0.18)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.036)	2 (0.04)	ND (0.036)	0.091 J (0.038)	ND (0.038)	ND (0.039)	ND (0.038)	ND (0.039)	ND (0.18)
Chrysene	760	190000	230	ND (0.036)	3.7 (0.04)	0.079 J (0.036)	0.13 J (0.038)	ND (0.038)	ND (0.039)	0.048 J (0.038)	ND (0.039)	0.36 J (0.18)
Fluorene	130000	190000	3800	ND (0.036)	1.1 (0.04)	ND (0.036)	ND (0.038)	ND (0.038)	ND (0.039)	ND (0.038)	ND (0.039)	ND (0.18)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.036)	1.8 (0.04)	ND (0.036)	0.091 J (0.038)	ND (0.038)	ND (0.039)	ND (0.038)	ND (0.039)	ND (0.18)
Naphthalene	66	77	25	ND (0.05)	0.16 J (0.053)	ND (0.056)	ND (0.057)	ND (0.054)	ND (0.057)	ND (0.055)	0.063 J (0.056)	ND (0.05)
Phenanthrene	190000	190000	10000	ND (0.036)	6.2 (0.12)	0.043 J (0.036)	0.3 (0.038)	ND (0.038)	ND (0.039)	0.081 J (0.038)	ND (0.039)	ND (0.18)
Pyrene	96000	190000	2200	ND (0.036)	6.4 (0.12)	0.05 J (0.036)	0.31 (0.038)	ND (0.038)	ND (0.039)	0.085 J (0.038)	ND (0.039)	ND (0.18)
Metals												
Lead	1000	190000	450	NA	NA	268 (0.464)	185 (0.493)	177 (0.497)	35.1 (0.516)	154 (0.492)	15.8 (0.505)	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-848 LINE 2	PB-848 LINE 3	PB-848 LINE 6	PB-848 LINE 7	PB-848 PERIMETER 1	PB-848 PERIMETER 2	PB-848 PERIMETER 3	PB-848 PERIMETER 6	PB-848 SUB 1
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	848 Line 2	848 Line 3	848 Line 6	848 Line 7	848 Perimeter 1	848 Perimeter 2	848 Perimeter 3	848 Perimeter 6	848 Sub 1
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	5.5 - 6.0	5.5 - 6.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	5.0 - 5.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006	8/24/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.028)	ND (0.027)	ND (0.028)	0.1 J (0.028)	ND (0.028)	ND (0.027)	ND (0.027)	ND (0.028)	ND (0.03)
Cumene	10000	10000	2500	ND (0.055)	ND (0.054)	0.81 (0.055)	4.6 (0.055)	ND (0.055)	ND (0.053)	0.15 J (0.053)	ND (0.057)	ND (0.059)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.055)	ND (0.054)	ND (0.055)	0.26 J (0.055)	ND (0.055)	ND (0.053)	ND (0.053)	ND (0.057)	ND (0.059)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.055)	ND (0.054)	ND (0.055)	ND (0.055)	ND (0.055)	ND (0.053)	ND (0.053)	ND (0.057)	ND (0.059)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.037)	ND (0.039)	0.11 J (0.041)	0.35 (0.041)	ND (0.04)	ND (0.04)	0.06 J (0.039)	ND (0.039)	ND (0.04)
Benzo(a)anthracene	130	190000	340	0.075 J (0.037)	ND (0.039)	0.071 J (0.041)	0.16 J (0.041)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.04)
Benzo(a)pyrene	91	190000	46	0.058 J (0.037)	ND (0.039)	ND (0.041)	0.14 J (0.041)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.04)
Benzo(b)fluoranthene	76	190000	170	0.067 J (0.037)	ND (0.039)	ND (0.041)	0.12 J (0.041)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.04)
Benzo(g,h,i)perylene	190000	190000	180	0.059 J (0.037)	ND (0.039)	ND (0.041)	0.067 J (0.041)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.04)
Chrysene	760	190000	230	0.083 J (0.037)	ND (0.039)	0.16 J (0.041)	0.53 (0.041)	ND (0.04)	ND (0.04)	0.15 J (0.039)	ND (0.039)	ND (0.04)
Fluorene	130000	190000	3800	ND (0.037)	ND (0.039)	0.51 (0.041)	1.3 (0.041)	ND (0.04)	ND (0.04)	0.59 (0.039)	ND (0.039)	ND (0.04)
Indeno(1,2,3-cd)pyrene	76	190000	18000	0.044 J (0.037)	ND (0.039)	ND (0.041)	0.059 J (0.041)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.04)
Naphthalene	66	77	25	ND (0.055)	0.071 J (0.054)	ND (0.055)	ND (0.055)	ND (0.055)	ND (0.053)	0.059 J (0.053)	ND (0.057)	ND (0.059)
Phenanthrene	190000	190000	10000	0.048 J (0.037)	ND (0.039)	0.87 (0.041)	3.1 (0.041)	ND (0.04)	ND (0.04)	0.88 (0.039)	ND (0.039)	ND (0.04)
Pyrene	96000	190000	2200	0.1 J (0.037)	0.042 J (0.039)	0.15 J (0.041)	0.44 (0.041)	ND (0.04)	ND (0.04)	0.12 J (0.039)	ND (0.039)	ND (0.04)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-848 SUB 2	PB-848 SUB 3	PB848-18-1-1	PB848-18-1-2	PB848-18-1-4	PB848-18-2-11	PB848-18-2-2	PB848-18-2-5	PB-848-LINE-10
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	848 Sub 2	848 Sub 3	PB848-001G (1-1)	PB848-002G (1-2)	PB848-003G (1-4)	PB848-006G (2-11)	PB848-004G (2-2)	PB848-005G (2-5)	PB-848-LINE-10
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	5.0 - 5.5	5.0 - 5.5	0.5 - 1.0	0.5 - 1.0	0.5 - 1.0	0.5 - 1.0	0.5 - 1.0	0.5 - 1.0	5.5 - 6.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	8/24/2006	8/24/2006	5/7/2018	5/7/2018	5/7/2018	5/8/2018	5/8/2018	5/8/2018	5/30/2007
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.027)	<u>20 (0.28)</u>	0.018 (0.004)	0.03 (0.005)	0.042 (0.005)	0.003 J (0.005)	0.001 J (0.005)	0.0009 J (0.006)	ND,D (0.15)
Cumene	10000	10000	2500	ND (0.055)	8.9 (0.056)	ND (0.004)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.006)	2.5 D (0.15)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	ND,IQ (0.00056)	ND,IQ (0.00052)	ND,IQ (0.00053)	ND,IQ (0.00054)	ND,IQ (0.00054)	ND,IQ (0.00056)	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	ND (0.004)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.006)	NA
Ethyl Benzene	880	1000	70	ND (0.055)	46 (0.56)	ND (0.004)	0.0009 J (0.005)	0.001 J (0.005)	ND (0.005)	ND (0.005)	ND (0.006)	0.69 D (0.15)
Methyl tert-butyl ether	8500	9800	2	NA	NA	ND (0.004)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.006)	NA
Toluene	10000	10000	100	ND (0.055)	1.5 (0.056)	0.009 (0.004)	0.011 (0.005)	0.018 (0.005)	0.005 J (0.005)	ND (0.005)	ND (0.006)	ND,D (0.15)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	ND (0.004)	ND (0.005)	0.001 J (0.005)	ND (0.005)	ND (0.005)	ND (0.006)	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	ND (0.004)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.006)	NA
Xylenes (total)	7900	9100	1000	NA	NA	0.003 J (0.004)	0.005 (0.005)	0.007 (0.005)	0.002 J (0.005)	ND (0.005)	ND (0.006)	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.041)	0.21 (0.039)	NA	NA	NA	NA	NA	NA	ND (0.43)
Benzo(a)anthracene	130	190000	340	ND (0.041)	ND (0.039)	NA	NA	NA	NA	NA	NA	ND (0.43)
Benzo(a)pyrene	91	190000	46	ND (0.041)	ND (0.039)	NA	NA	NA	NA	NA	NA	ND (0.43)
Benzo(b)fluoranthene	76	190000	170	ND (0.041)	ND (0.039)	NA	NA	NA	NA	NA	NA	ND (0.43)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.041)	ND (0.039)	NA	NA	NA	NA	NA	NA	ND (0.43)
Chrysene	760	190000	230	ND (0.041)	ND (0.039)	NA	NA	NA	NA	NA	NA	ND (0.43)
Fluorene	130000	190000	3800	ND (0.041)	2.2 (0.039)	NA	NA	NA	NA	NA	NA	0.66 (0.43)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.041)	ND (0.039)	NA	NA	NA	NA	NA	NA	ND (0.43)
Naphthalene	66	77	25	ND (0.055)	4.9 (0.056)	NA	NA	NA	NA	NA	NA	0.28 D (0.15)
Phenanthrene	190000	190000	10000	ND (0.041)	1.9 (0.039)	NA	NA	NA	NA	NA	NA	1.5 (0.43)
Pyrene	96000	190000	2200	ND (0.041)	ND (0.039)	NA	NA	NA	NA	NA	NA	ND (0.43)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-848-LINE-11	PB-848-LINE-12	PB-848-LINE-13	PB-848-LINE-4	PB-848-LINE-5	PB-848-LINE-8	PB-848-LINE-9	PB-848-PER-4	PB-848-PER-5
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-848-LINE-11	PB-848-LINE-12	PB-848-LINE-13	PB-848-LINE-4	PB-848-LINE-5	PB-848-LINE-8	PB-848-LINE-9	PB-848-PER-4	PB-848-PER-5
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007	5/30/2007
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND,D (0.16)	ND,D (0.33)	0.13 J,D (0.21)	ND,D (0.19)	ND,D (0.3)	ND,D (0.27)	ND,D (0.18)	0.93 D (0.18)	ND,D (0.18)
Cumene	10000	10000	2500	ND,D (0.16)	0.41 D (0.33)	ND,D (0.21)	8.5 D (0.19)	0.94 D (0.3)	8.6 D (0.27)	0.9 D (0.18)	0.63 D (0.18)	ND,D (0.18)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	0.084 J,D (0.16)	0.24 J,D (0.33)	0.16 J,D (0.21)	ND,D (0.19)	ND,D (0.3)	1.7 D (0.27)	0.2 D (0.18)	0.27 D (0.18)	ND,D (0.18)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	0.1 J,D (0.16)	ND,D (0.33)	ND,D (0.21)	ND,D (0.19)	ND,D (0.3)	ND,D (0.27)	0.14 J,D (0.18)	ND,D (0.18)	ND,D (0.18)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.4)	ND (0.42)	ND (0.39)	ND (0.43)	ND (0.43)	ND (0.41)	ND (0.42)	ND,D (2.3)	ND (0.37)
Benzo(a)anthracene	130	190000	340	ND (0.4)	ND (0.42)	ND (0.39)	ND (0.43)	ND (0.43)	ND (0.41)	ND (0.42)	ND,D (2.3)	ND (0.37)
Benzo(a)pyrene	91	190000	46	ND (0.4)	ND (0.42)	ND (0.39)	ND (0.43)	ND (0.43)	ND (0.41)	ND (0.42)	ND,D (2.3)	ND (0.37)
Benzo(b)fluoranthene	76	190000	170	ND (0.4)	ND (0.42)	ND (0.39)	ND (0.43)	ND (0.43)	ND (0.41)	ND (0.42)	ND,D (2.3)	ND (0.37)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.4)	ND (0.42)	ND (0.39)	ND (0.43)	ND (0.43)	ND (0.41)	ND (0.42)	ND,D (2.3)	ND (0.37)
Chrysene	760	190000	230	ND (0.4)	ND (0.42)	ND (0.39)	ND (0.43)	ND (0.43)	ND (0.41)	ND (0.42)	ND,D (2.3)	ND (0.37)
Fluorene	130000	190000	3800	0.38 J (0.4)	ND (0.42)	ND (0.39)	0.75 (0.43)	ND (0.43)	0.83 (0.41)	0.48 (0.42)	10 D (2.3)	ND (0.37)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.4)	ND (0.42)	ND (0.39)	ND (0.43)	ND (0.43)	ND (0.41)	ND (0.42)	ND,D (2.3)	ND (0.37)
Naphthalene	66	77	25	0.3 D (0.16)	1.9 D (0.33)	ND,D (0.21)	ND,D (0.19)	ND,D (0.3)	0.33 D (0.27)	0.9 D (0.18)	ND,D (0.18)	ND,D (0.18)
Phenanthrene	190000	190000	10000	ND (0.4)	ND (0.42)	ND (0.39)	1.7 (0.43)	ND (0.43)	1.5 (0.41)	0.79 (0.42)	13 D (2.3)	ND (0.37)
Pyrene	96000	190000	2200	ND (0.4)	ND (0.42)	ND (0.39)	ND (0.43)	ND (0.43)	ND (0.41)	ND (0.42)	ND,D (2.3)	ND (0.37)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-849-LINE-1	PB-849-LINE-2	PB-849-LINE-3	PB-849-LINE-4	PB-849-PER1	PB-849-PER2	PB-849-PER3	PB-849-PER4	PB-849-PER5
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-849-LINE-1	PB-849-LINE-2	PB-849-LINE-3	PB-849-LINE-4	PB-849-PER1	PB-849-PER2	PB-849-PER3	PB-849-PER4	PB-849-PER5
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	9/4/2007	9/4/2007	9/4/2007	9/4/2007	5/25/2007	5/25/2007	5/25/2007	5/25/2007	5/25/2007
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.0056)	ND (0.0061)	0.0046 J (0.0061)	ND (0.0058)	ND,D (0.18)	ND,D (0.16)	ND,D (0.29)	ND,D (0.16)	ND,D (0.15)
Cumene	10000	10000	2500	ND (0.0056)	ND (0.0061)	ND (0.0061)	ND (0.0058)	ND,D (0.18)	ND,D (0.16)	ND,D (0.29)	ND,D (0.16)	ND,D (0.15)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.0056)	ND (0.0061)	ND (0.0061)	ND (0.0058)	ND,D (0.18)	ND,D (0.16)	ND,D (0.29)	ND,D (0.16)	ND,D (0.15)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.0056)	ND (0.0061)	0.0047 J (0.0061)	ND (0.0058)	ND,D (0.18)	ND,D (0.16)	ND,D (0.29)	ND,D (0.16)	ND,D (0.15)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Benzo(a)anthracene	130	190000	340	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Benzo(a)pyrene	91	190000	46	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Benzo(b)fluoranthene	76	190000	170	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Benzo(g,h,i)perylene	190000	190000	180	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Chrysene	760	190000	230	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Fluorene	130000	190000	3800	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Naphthalene	66	77	25	0.0039 J (0.0056)	0.002 J (0.0061)	0.0036 J (0.0061)	0.002 J (0.0058)	ND,D (0.18)	ND,D (0.16)	ND,D (0.29)	ND,D (0.16)	ND,D (0.15)
Phenanthrene	190000	190000	10000	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Pyrene	96000	190000	2200	ND,D (3.7)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.37)	ND (0.4)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-849-SUB1	PB-880-1	PB-880-10	PB-880-11	PB-880-12	PB-880-13	PB-880-14	PB-880-2	PB-880-3
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-849-SUB1	880-1	880-10	880-11	880-12	880-13	880-14	880-2	880-3
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	5.0 - 5.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	5/25/2007	4/8/2004	4/24/2004	4/24/2004	4/24/2004	4/24/2004	9/7/2004	4/8/2004	4/8/2004
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND,D (0.31)	0.42 (0.01)	0.33 (0.028)	1.1 (0.029)	0.034 J (0.028)	8 (0.029)	0.014 (0.0021)	ND (0.012)	ND (0.013)
Cumene	10000	10000	2500	ND,D (0.31)	0.35 (0.02)	0.3 (0.056)	2.7 (0.057)	0.069 J (0.056)	1.6 (0.057)	0.031 (0.0054)	ND (0.023)	ND (0.027)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND,D (0.31)	1 (0.02)	0.72 (0.056)	6.3 (0.057)	0.15 J (0.056)	3.3 (0.057)	ND (0.024)	ND (0.023)	ND (0.027)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND,D (0.31)	2.7 (0.02)	1.7 (0.056)	12 (0.057)	0.26 J (0.056)	24 (0.23)	0.037 (0.0021)	ND (0.023)	ND (0.027)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.42)	ND (0.19)	ND (1)	ND (2)	ND (2)	ND (2)	0.021 J (0.0036)	ND (0.039)	ND (0.41)
Benzo(a)anthracene	130	190000	340	ND (0.42)	ND (0.19)	ND (1)	ND (2)	ND (2)	ND (2)	0.063 (0.0081)	ND (0.039)	ND (0.41)
Benzo(a)pyrene	91	190000	46	ND (0.42)	ND (0.19)	ND (1)	ND (2)	ND (2)	ND (2)	0.099 (0.012)	ND (0.039)	ND (0.41)
Benzo(b)fluoranthene	76	190000	170	ND (0.42)	ND (0.19)	ND (1)	ND (2)	ND (2)	ND (2)	0.085 (0.016)	ND (0.039)	ND (0.41)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.42)	ND (0.19)	ND (1)	ND (2)	ND (2)	ND (2)	0.1 (0.016)	ND (0.039)	ND (0.41)
Chrysene	760	190000	230	ND (0.42)	ND (0.19)	ND (1)	ND (2)	ND (2)	ND (2)	0.085 (0.012)	ND (0.039)	ND (0.41)
Fluorene	130000	190000	3800	ND (0.42)	0.46 J (0.19)	1.4 J (1)	2.8 J (2)	ND (2)	ND (2)	0.026 J (0.024)	ND (0.039)	ND (0.41)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.42)	ND (0.19)	ND (1)	ND (2)	ND (2)	ND (2)	ND (0.02)	ND (0.039)	ND (0.41)
Naphthalene	66	77	25	ND,D (0.31)	2 (0.02)	1.3 (0.056)	13 (0.057)	0.41 (0.056)	10 (0.057)	0.22 (0.011)	ND (0.023)	ND (0.027)
Phenanthrene	190000	190000	10000	ND (0.42)	0.86 J (0.19)	3.3 J (1)	5.9 J (2)	ND (2)	2 J (2)	0.16 (0.012)	ND (0.039)	ND (0.41)
Pyrene	96000	190000	2200	ND (0.42)	0.2 J (0.19)	ND (1)	ND (2)	ND (2)	ND (2)	0.19 (0.028)	ND (0.039)	ND (0.41)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-880-4	PB-880-5	PB-880-6	PB-880-7	PB-880-8	PB-880-9	PB-880-SURFACE	PB-881-1_2004	PB-881-1_2005
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	880-4	880-5	880-6	880-7	880-8	880-9	880-Surface	881-1_07/22/2004	881-1_10/26/2005
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	4/8/2004	4/8/2004	4/8/2004	4/8/2004	4/8/2004	4/24/2004	4/8/2004	7/22/2004	10/26/2005
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	0.14 (0.013)	0.22 (0.013)	ND (0.012)	0.018 J (0.012)	0.58 (0.015)	3.1 (0.026)	36 (0.26)	ND (0.0012)	ND (0.023)
Cumene	10000	10000	2500	0.27 (0.025)	0.49 (0.027)	ND (0.025)	ND (0.024)	0.39 (0.03)	4.6 (0.051)	13 (0.52)	ND (0.0031)	ND (0.045)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	0.66 (0.025)	1.3 (0.027)	ND (0.025)	ND (0.024)	1.2 (0.03)	13 (0.051)	41 (0.52)	ND (0.0012)	ND (0.045)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	1.3 (0.025)	2.4 (0.027)	0.034 J (0.025)	0.03 J (0.024)	3.2 (0.03)	29 (0.26)	140 (0.52)	0.0024 J (0.0012)	ND (0.045)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.2)	0.22 J (0.04)	ND (0.04)	ND (0.39)	0.74 J (0.44)	ND (2)	3.6 J (0.36)	0.019 (0.000011)	ND (0.037)
Benzo(a)anthracene	130	190000	340	ND (0.2)	0.16 J (0.04)	ND (0.04)	ND (0.39)	0.52 J (0.44)	ND (2)	ND (0.36)	0.077 (0.0016)	0.2 (0.037)
Benzo(a)pyrene	91	190000	46	ND (0.2)	0.17 J (0.04)	ND (0.04)	ND (0.39)	0.59 J (0.44)	ND (2)	ND (0.36)	0.091 (0.0024)	ND (0.037)
Benzo(b)fluoranthene	76	190000	170	ND (0.2)	0.2 J (0.04)	ND (0.04)	ND (0.39)	0.68 J (0.44)	ND (2)	0.88 J (0.36)	0.067 (0.0031)	ND (0.037)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.2)	0.1 J (0.04)	ND (0.04)	ND (0.39)	ND (0.44)	ND (2)	ND (0.36)	0.12 (0.0031)	ND (0.037)
Chrysene	760	190000	230	ND (0.2)	0.2 J (0.04)	ND (0.04)	ND (0.39)	1 J (0.44)	ND (2)	2.1 J (0.36)	0.075 (0.0024)	0.15 J (0.037)
Fluorene	130000	190000	3800	0.34 J (0.2)	0.57 (0.04)	ND (0.04)	ND (0.39)	1.9 J (0.44)	ND (2)	12 (0.36)	0.0057 J (0.0047)	0.069 J (0.037)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.2)	0.1 J (0.04)	ND (0.04)	ND (0.39)	ND (0.44)	ND (2)	ND (0.36)	0.043 (0.0039)	ND (0.037)
Naphthalene	66	77	25	1.1 (0.025)	2.1 (0.027)	ND (0.025)	0.038 J (0.024)	1.4 (0.03)	22 (0.26)	52 (0.52)	ND (0.0061)	ND (0.045)
Phenanthrene	190000	190000	10000	0.59 J (0.2)	1.2 (0.04)	ND (0.04)	ND (0.39)	4.1 J (0.44)	4.1 J (2)	28 (0.36)	0.096 (0.000035)	0.13 J (0.037)
Pyrene	96000	190000	2200	ND (0.2)	0.36 J (0.04)	ND (0.04)	ND (0.39)	1.3 J (0.44)	ND (2)	3.1 J (0.36)	0.21 (0.0055)	0.11 J (0.037)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-881-2_2004	PB-881-2_2005	PB-881-3_2004	PB-881-3_2005	PB-881-4_2004	PB-881-4_2005	PB-881-5_2004	PB-881-5_2005	PB-881-6_2004
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	881-2_07/22/2004	881-2_10/26/2005	881-3_07/22/2004	881-3_10/26/2005	881-4_07/22/2004	881-4_10/26/2005	881-5_07/22/2004	881-5_10/26/2005	881-6_07/22/2004
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/22/2004	10/26/2005	7/22/2004	10/26/2005	7/22/2004	10/26/2005	7/22/2004	10/26/2005	7/22/2004
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	0.011 (0.001)	ND (0.028)	ND (0.02)	ND (0.025)	ND (0.0011)	ND (0.027)	ND (0.18)	ND (0.027)	ND (0.32)
Cumene	10000	10000	2500	0.084 (0.0026)	ND (0.056)	0.85 (0.049)	ND (0.051)	ND (0.0028)	ND (0.053)	5.8 (0.45)	ND (0.054)	ND (0.81)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	0.023 (0.001)	ND (0.056)	0.3 (0.02)	ND (0.051)	ND (0.0011)	ND (0.053)	ND (0.18)	ND (0.054)	ND (0.32)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	0.032 (0.001)	ND (0.056)	0.25 (0.02)	ND (0.051)	0.0027 J (0.0011)	ND (0.053)	1.7 (0.18)	ND (0.054)	ND (0.32)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	0.057 (0.0036)	ND (0.039)	0.17 J (0.033)	ND (0.039)	ND (0.035)	ND (0.041)	0.89 (0.065)	ND (0.041)	0.36 J (0.064)
Benzo(a)anthracene	130	190000	340	0.018 J (0.0079)	0.046 J (0.039)	ND (0.073)	ND (0.039)	0.078 J (0.077)	0.058 J (0.041)	ND (0.14)	ND (0.041)	ND (0.14)
Benzo(a)pyrene	91	190000	46	0.021 J (0.012)	0.06 J (0.039)	ND (0.11)	ND (0.039)	ND (0.12)	0.049 J (0.041)	ND (0.22)	0.05 J (0.041)	ND (0.21)
Benzo(b)fluoranthene	76	190000	170	0.019 J (0.016)	0.042 J (0.039)	ND (0.15)	ND (0.039)	ND (0.15)	0.047 J (0.041)	ND (0.29)	0.061 J (0.041)	ND (0.29)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.016)	0.065 J (0.039)	ND (0.15)	0.057 J (0.039)	ND (0.15)	ND (0.041)	ND (0.29)	0.053 J (0.041)	ND (0.29)
Chrysene	760	190000	230	0.065 J (0.012)	0.14 J (0.039)	ND (0.74)	ND (0.039)	ND (0.12)	0.087 J (0.041)	ND (0.22)	0.051 J (0.041)	ND (0.21)
Fluorene	130000	190000	3800	0.069 J (0.024)	ND (0.039)	0.24 J (0.22)	ND (0.039)	ND (0.23)	ND (0.041)	1.8 J (0.43)	ND (0.041)	ND (0.43)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.02)	ND (0.039)	ND (0.18)	0.052 J (0.039)	ND (0.19)	ND (0.041)	ND (0.36)	ND (0.041)	ND (0.36)
Naphthalene	66	77	25	ND (1.2)	ND (0.056)	3.4 (0.098)	ND (0.051)	0.013 (0.0055)	ND (0.053)	31 (0.91)	ND (0.054)	20 (1.6)
Phenanthrene	190000	190000	10000	0.25 (0.012)	0.058 J (0.039)	0.61 J (0.11)	ND (0.039)	ND (0.12)	0.059 J (0.041)	4.2 (0.22)	ND (0.041)	0.66 J (0.21)
Pyrene	96000	190000	2200	0.12 J (0.028)	0.1 J (0.039)	0.39 J (0.26)	0.054 J (0.039)	ND (0.27)	0.098 J (0.041)	1.6 J (0.5)	0.081 J (0.041)	0.92 J (0.5)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-881-6_2005	PB-881-7_2004	PB-884-SS-1	PB-884-SS-2	PB-885-CS-1	PB-885-CS-10	PB-885-CS-11	PB-885-CS-12	PB-885-CS-13
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	881-6_10/26/2005	881-7_07/22/2004	AST-884-SS-1	AST-884-SS-2	AST-885-CS-1	AST-885-CS-10	AST-885-CS-11	AST-885-CS-12	AST-885-CS-13
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	10/26/2005	7/22/2004	11/30/2006	11/30/2006	3/14/2007	3/14/2007	3/14/2007	3/14/2007	3/14/2007
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.024)	ND (0.2)	ND (0.031)	0.055 J (0.029)	ND,D (0.096)	ND,D (0.09)	ND,D (0.095)	ND,D (0.094)	ND,D (0.094)
Cumene	10000	10000	2500	ND (0.047)	2.9 (0.5)	0.49 (0.063)	ND (0.059)	0.054 J,D (0.096)	0.099 D (0.09)	0.089 J,D (0.095)	ND,D (0.094)	ND,D (0.094)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND (0.047)	ND (0.5)	0.74 (0.063)	ND (0.059)	0.11 D (0.096)	ND,D (0.09)	ND,D (0.095)	ND,D (0.094)	ND,D (0.094)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND (0.047)	0.33 J (0.2)	0.12 J (0.063)	ND (0.059)	ND,D (0.096)	ND,D (0.09)	ND,D (0.095)	ND,D (0.094)	0.05 J,D (0.094)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	NA	NA	6.4 (0.063)	ND (0.059)	2.1 D (0.096)	0.15 D (0.09)	ND,D (0.095)	ND,D (0.094)	1.9 D (0.094)
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.039)	0.24 J (0.031)	0.045 J (0.043)	ND (0.04)	ND (0.39)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)
Benzo(a)anthracene	130	190000	340	0.044 J (0.039)	ND (0.069)	0.073 J (0.043)	0.14 J (0.04)	ND (0.39)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)
Benzo(a)pyrene	91	190000	46	0.058 J (0.039)	ND (0.1)	0.081 J (0.043)	0.14 J (0.04)	ND (0.39)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)
Benzo(b)fluoranthene	76	190000	170	0.057 J (0.039)	ND (0.14)	0.088 J (0.043)	0.15 J (0.04)	ND (0.39)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)
Benzo(g,h,i)perylene	190000	190000	180	0.078 J (0.039)	ND (0.14)	0.058 J (0.043)	0.096 J (0.04)	ND (0.39)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)
Chrysene	760	190000	230	0.064 J (0.039)	ND (0.1)	0.1 J (0.043)	0.15 J (0.04)	ND (0.39)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)
Fluorene	130000	190000	3800	ND (0.039)	0.49 J (0.21)	0.39 (0.043)	ND (0.04)	ND (0.39)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)
Indeno(1,2,3-cd)pyrene	76	190000	18000	0.042 J (0.039)	ND (0.17)	0.047 J (0.043)	0.1 J (0.04)	ND (0.39)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)
Naphthalene	66	77	25	ND (0.047)	18 (1)	2.7 (0.063)	ND (0.059)	0.52 D (0.096)	0.1 D (0.09)	ND,D (0.095)	0.16 D (0.094)	0.48 D (0.094)
Phenanthrene	190000	190000	10000	ND (0.039)	1.1 (0.1)	0.66 (0.043)	0.17 J (0.04)	0.6 (0.39)	ND (0.4)	ND (0.41)	0.5 (0.38)	1.2 (0.38)
Pyrene	96000	190000	2200	0.082 J (0.039)	0.54 J (0.24)	0.11 J (0.043)	0.24 (0.04)	ND (0.39)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-885-CS-14	PB-885-CS-15	PB-885-CS-2	PB-885-CS-3	PB-885-CS-4	PB-885-CS-5	PB-885-CS-6	PB-885-CS-7	PB-885-CS-8
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AST-885-CS-14	AST-885-CS-15	AST-885-CS-2	AST-885-CS-3	AST-885-CS-4	AST-885-CS-5	AST-885-CS-6	AST-885-CS-7	AST-885-CS-8
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	3/14/2007	3/14/2007	3/14/2007	3/14/2007	3/14/2007	3/14/2007	3/14/2007	3/14/2007	3/14/2007
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND,D (0.089)	ND,D (0.096)	0.55 D (0.083)	0.065 J,D (0.09)	0.19 D (0.081)	0.11 D (0.095)	ND,D (0.092)	ND,D (0.1)	ND,D (0.11)
Cumene	10000	10000	2500	ND,D (0.089)	ND,D (0.096)	0.44 D (0.083)	0.48 D (0.09)	1.1 D (0.081)	1.1 D (0.095)	ND,D (0.092)	0.35 D (0.1)	0.25 D (0.11)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND,D (0.089)	ND,D (0.096)	1.6 D (0.083)	0.44 D (0.09)	1.7 D (0.081)	1.8 D (0.095)	ND,D (0.092)	0.51 D (0.1)	0.34 D (0.11)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND,D (0.089)	ND,D (0.096)	1.1 D (0.083)	0.61 D (0.09)	3.4 D (0.081)	3.3 D (0.095)	ND,D (0.092)	0.23 D (0.1)	0.1 J,D (0.11)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	ND,D (0.089)	ND,D (0.096)	7.9 D (0.083)	18 D (0.09)	21 D (0.081)	22 D (0.095)	0.81 D (0.092)	7.3 D (0.1)	3.1 D (0.11)
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.43)	0.45 (0.4)	ND (0.41)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.42)	ND (0.41)	ND (0.45)
Benzo(a)anthracene	130	190000	340	ND (0.43)	0.76 (0.4)	ND (0.41)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.42)	ND (0.41)	ND (0.45)
Benzo(a)pyrene	91	190000	46	ND (0.43)	0.46 (0.4)	ND (0.41)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.42)	ND (0.41)	ND (0.45)
Benzo(b)fluoranthene	76	190000	170	ND (0.43)	0.68 (0.4)	ND (0.41)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.42)	ND (0.41)	ND (0.45)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.43)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.42)	ND (0.41)	ND (0.45)
Chrysene	760	190000	230	ND (0.43)	0.56 (0.4)	ND (0.41)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.42)	ND (0.41)	ND (0.45)
Fluorene	130000	190000	3800	ND (0.43)	ND (0.4)	0.49 (0.41)	3.3 (0.38)	ND (0.38)	ND (0.38)	ND (0.42)	ND (0.41)	ND (0.45)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.43)	ND (0.4)	ND (0.41)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.42)	ND (0.41)	ND (0.45)
Naphthalene	66	77	25	ND,D (0.089)	ND,D (0.096)	1.4 D (0.083)	4.1 D (0.09)	4.6 D (0.081)	4.3 D (0.095)	0.19 D (0.092)	1.2 D (0.1)	0.74 D (0.11)
Phenanthrene	190000	190000	10000	ND (0.43)	1.6 (0.4)	0.61 (0.41)	3.9 (0.38)	ND (0.38)	2.5 (0.38)	0.72 (0.42)	ND (0.41)	1.9 (0.45)
Pyrene	96000	190000	2200	ND (0.43)	1.1 (0.4)	ND (0.41)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.42)	ND (0.41)	ND (0.45)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-885-CS-9	PB-885-SS-1	PB-885-SS-10	PB-885-SS-2	PB-885-SS-3	PB-885-SS-4	PB-885-SS-5	PB-885-SS-6	PB-885-SS-7
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AST-885-CS-9	AST-885-SS-1	AST-885-SS-10	AST-885-SS-2	AST-885-SS-3	AST-885-SS-4	AST-885-SS-5	AST-885-SS-6	AST-885-SS-7
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	3/14/2007	11/30/2006	11/30/2006	11/30/2006	11/30/2006	11/30/2006	11/30/2006	11/30/2006	11/30/2006
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND,D (0.11)	ND (0.028)	0.11 J (0.034)	0.1 J (0.031)	ND (0.033)	0.068 J (0.026)	0.35 (0.031)	2.6 (0.031)	0.16 J (0.031)
Cumene	10000	10000	2500	0.11 J,D (0.11)	ND (0.057)	1.2 (0.068)	1.2 (0.063)	ND (0.065)	ND (0.052)	1.7 (0.061)	5.4 (0.061)	2.9 (0.061)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	85	98	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	880	1000	70	ND,D (0.11)	ND (0.057)	2.2 (0.068)	2.1 (0.063)	ND (0.065)	ND (0.052)	3.4 (0.061)	13 (0.061)	2.4 (0.061)
Methyl tert-butyl ether	8500	9800	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	10000	10000	100	ND,D (0.11)	ND (0.057)	0.85 (0.068)	1.6 (0.063)	ND (0.065)	0.1 J (0.052)	3.3 (0.061)	26 (0.61)	3.4 (0.061)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	7900	9100	1000	1 D (0.11)	ND (0.057)	17 (0.068)	21 (0.063)	ND (0.065)	4.4 (0.052)	27 (0.061)	97 (0.61)	66 (0.61)
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.45)	ND (0.18)	ND (0.21)	ND (0.2)	ND (0.038)	ND (0.18)	ND (0.2)	ND (0.2)	ND (0.2)
Benzo(a)anthracene	130	190000	340	ND (0.45)	ND (0.18)	ND (0.21)	ND (0.2)	0.076 J (0.038)	ND (0.18)	ND (0.2)	ND (0.2)	0.22 J (0.2)
Benzo(a)pyrene	91	190000	46	ND (0.45)	ND (0.18)	ND (0.21)	ND (0.2)	0.069 J (0.038)	ND (0.18)	ND (0.2)	ND (0.2)	ND (0.2)
Benzo(b)fluoranthene	76	190000	170	ND (0.45)	ND (0.18)	ND (0.21)	ND (0.2)	0.075 J (0.038)	ND (0.18)	ND (0.2)	ND (0.2)	ND (0.2)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.45)	ND (0.18)	ND (0.21)	ND (0.2)	0.046 J (0.038)	ND (0.18)	ND (0.2)	ND (0.2)	ND (0.2)
Chrysene	760	190000	230	ND (0.45)	ND (0.18)	ND (0.21)	ND (0.2)	0.077 J (0.038)	ND (0.18)	ND (0.2)	ND (0.2)	0.22 J (0.2)
Fluorene	130000	190000	3800	ND (0.45)	ND (0.18)	1.2 (0.21)	ND (0.2)	ND (0.038)	ND (0.18)	ND (0.2)	1.2 (0.2)	1.2 (0.2)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.45)	ND (0.18)	ND (0.21)	ND (0.2)	0.046 J (0.038)	ND (0.18)	ND (0.2)	ND (0.2)	ND (0.2)
Naphthalene	66	77	25	0.21 D (0.11)	ND (0.057)	6.5 (0.068)	4.8 (0.063)	ND (0.065)	0.11 J (0.052)	5.6 (0.061)	15 (0.061)	11 (0.061)
Phenanthrene	190000	190000	10000	1.2 (0.45)	ND (0.18)	2 (0.21)	0.88 J (0.2)	0.12 J (0.038)	0.5 J (0.18)	1.5 (0.2)	2 (0.2)	2.3 (0.2)
Pyrene	96000	190000	2200	ND (0.45)	0.18 J (0.18)	ND (0.21)	ND (0.2)	0.092 J (0.038)	ND (0.18)	ND (0.2)	ND (0.2)	ND (0.2)
Metals												
Lead	1000	190000	450	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-885-SS-8	PB-885-SS-9	S-119D	S-216	S-218D	S-218D	S-219	S-229	S-282
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AST-885-SS-8	AST-885-SS-9	BHS119D-040105-1-1.5	BH-S216-032505-1-1.5	AOI4-S218D-0.5-1.0-20160205	AOI4-S218D-6-6.5-20160114	BH-S219-032505-1-1.5	BH-S229-032505-1.5-2	S-282_1-2
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 0.5	0.0 - 0.5	1.0 - 1.5	1.0 - 1.5	0.5 - 1.0	6.0 - 6.5	1.0 - 1.5	1.5 - 2.0	1.0 - 2.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	11/30/2006	11/30/2006	4/1/2005	3/25/2005	2/5/2016	1/14/2016	3/25/2005	3/25/2005	4/27/2010
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.035)	ND (0.029)	ND (0.005)	ND (0.005)	ND (0.00055)	0.0114 (0.00053)	ND (0.005)	ND (0.005)	ND (0.004)
Cumene	10000	10000	2500	ND (0.069)	0.11 J (0.059)	ND (0.005)	ND (0.005)	ND (0.0022)	0.088 (0.0021)	ND (0.005)	ND (0.005)	ND (0.004)
1,2-Dibromoethane	3.7	4.2	0.005	NA	NA	ND (0.005)	ND (0.005)	NA	ND (0.0011)	ND (0.005)	ND (0.005)	ND (0.004)
1,2-Dichloroethane	85	98	0.5	NA	NA	ND (0.005)	ND (0.005)	ND (0.0011)	ND (0.0011)	ND (0.005)	ND (0.005)	ND (0.004)
Ethyl Benzene	880	1000	70	ND (0.069)	ND (0.059)	ND (0.005)	ND (0.005)	ND (0.0011)	0.207 (0.12)	ND (0.005)	ND (0.005)	ND (0.004)
Methyl tert-butyl ether	8500	9800	2	NA	NA	ND (0.005)	ND (0.005)	ND (0.0011)	ND (0.0011)	ND (0.005)	0.014 (0.005)	ND (0.004)
Toluene	10000	10000	100	ND (0.069)	ND (0.059)	ND (0.005)	ND (0.005)	ND (0.0011)	0.0234 (0.0011)	ND (0.005)	ND (0.005)	ND (0.004)
1,2,4-Trimethylbenzene	4700	5400	300	NA	NA	NA	NA	ND (0.0022)	1.17 (0.24)	NA	NA	ND (0.004)
1,3,5-Trimethylbenzene	4700	5400	93	NA	NA	NA	NA	ND (0.0022)	0.434 (0.24)	NA	NA	ND (0.004)
Xylenes (total)	7900	9100	1000	ND (0.069)	1.8 (0.059)	ND (0.005)	ND (0.005)	ND (0.0011)	0.418 (0.12)	ND (0.005)	ND (0.005)	ND (0.004)
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.2)	0.2 J (0.2)	ND (0.38)	ND (0.38)	0.0207 J (0.039)	ND (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Benzo(a)anthracene	130	190000	340	ND (0.2)	0.49 J (0.2)	ND (0.38)	ND (0.38)	0.0748 (0.039)	ND (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Benzo(a)pyrene	91	190000	46	0.22 J (0.2)	0.36 J (0.2)	ND (0.38)	ND (0.38)	0.0952 (0.039)	ND (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Benzo(b)fluoranthene	76	190000	170	0.24 J (0.2)	0.46 J (0.2)	ND (0.38)	ND (0.38)	0.106 (0.039)	ND (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.2)	0.26 J (0.2)	ND (0.38)	ND (0.38)	0.0794 (0.039)	ND (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Chrysene	760	190000	230	ND (0.2)	0.55 J (0.2)	ND (0.38)	ND (0.38)	0.0966 (0.039)	ND (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Fluorene	130000	190000	3800	ND (0.2)	0.47 J (0.2)	ND (0.38)	ND (0.38)	ND (0.039)	0.231 (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Indeno(1,2,3-cd)pyrene	76	190000	18000	ND (0.2)	0.3 J (0.2)	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.069)	0.55 (0.059)	ND (0.38)	ND (0.38)	0.0317 J (0.039)	2.44 (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Phenanthrene	190000	190000	10000	ND (0.2)	1.4 (0.2)	ND (0.38)	ND (0.38)	0.11 (0.039)	0.371 (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Pyrene	96000	190000	2200	0.24 J (0.2)	0.82 J (0.2)	ND (0.38)	ND (0.38)	0.127 (0.039)	0.022 J (0.038)	ND (0.4)	ND (0.37)	ND (0.2)
Metals												
Lead	1000	190000	450	NA	NA	24.9 (2.24)	60.8 (2.26)	500 (2.4)	13.3 (2.2)	8.99 (2.37)	16.7 (2.16)	87.3 (0.229)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	S-364	S-364	S-364	S-365	S-365	S-365	S-366	S-366	S-366
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	AOI4_S-364_.5-1_30413	AOI4_S-364_4-5_30413	S-364 @ 19'_031913	S-365_0-2'	S-365_4-6'	S-365 @ 12'-14'_031813	AOI4_S-366_0-1_30513	AOI4_S-366_4.5-5.5_30513	S-366@14-16_031513
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.5 - 1.0	4.0 - 5.0	18.5 - 19.0	0.0 - 2.0	4.0 - 6.0	12.0 - 14.0	0.0 - 1.0	4.5 - 5.5	14.0 - 16.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	3/4/2013	3/4/2013	3/19/2013	3/4/2013	3/4/2013	3/18/2013	3/5/2013	3/5/2013	3/15/2013
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.00074)	0.189 J (0.21)	0.241 (0.1)	ND (0.00055)	0.0269 (0.00057)	0.0004 J (0.0011)	ND (0.0009)	ND (0.0011)	0.00041 J (0.0011)
Cumene	10000	10000	2500	ND (0.0037)	0.755 J (1)	2.36 (0.5)	ND (0.0028)	0.0063 (0.0028)	ND (0.0053)	ND (0.0045)	ND (0.0053)	ND (0.0056)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00074)	ND (0.21)	ND (0.1)	ND (0.00055)	ND (0.00057)	ND (0.0011)	ND (0.0009)	ND (0.0011)	ND (0.0011)
1,2-Dichloroethane	85	98	0.5	ND (0.00074)	ND (0.21)	ND (0.1)	ND (0.00055)	ND (0.00057)	ND (0.0011)	ND (0.0009)	ND (0.0011)	ND (0.0011)
Ethyl Benzene	880	1000	70	ND (0.00074)	1.43 (0.21)	0.14 (0.1)	ND (0.00055)	0.0085 (0.00057)	ND (0.0011)	ND (0.0009)	ND (0.0011)	ND (0.0011)
Methyl tert-butyl ether	8500	9800	2	ND (0.00074)	ND (0.21)	ND (0.1)	ND (0.00055)	0.00024 J (0.00057)	ND (0.0011)	ND (0.0009)	ND (0.0011)	ND (0.0011)
Toluene	10000	10000	100	ND (0.00074)	ND (0.21)	ND (0.1)	ND (0.00055)	0.0025 (0.00057)	ND (0.0011)	ND (0.0009)	ND (0.0011)	ND (0.0011)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0037)	4.3 (1)	ND (0.5)	ND (0.0028)	0.0025 J (0.0028)	ND (0.0053)	ND (0.0045)	ND (0.0053)	ND (0.0056)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0037)	1.88 (1)	ND (0.5)	ND (0.0028)	0.0027 J (0.0028)	ND (0.0053)	ND (0.0045)	ND (0.0053)	ND (0.0056)
Xylenes (total)	7900	9100	1000	ND (0.00074)	2.25 (0.21)	0.222 (0.1)	ND (0.00055)	0.0098 (0.00057)	ND (0.0011)	ND (0.0009)	ND (0.0011)	ND (0.0011)
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.035)	ND (0.041)	ND (0.039)	ND (0.033)	0.356 (0.039)	ND (0.034)	ND (0.035)	ND (0.04)	ND (0.1)
Benzo(a)anthracene	130	190000	340	ND (0.035)	ND (0.041)	ND (0.039)	0.02 J (0.033)	0.841 (0.039)	ND (0.034)	0.0154 J (0.035)	ND (0.04)	ND (0.1)
Benzo(a)pyrene	91	190000	46	ND (0.035)	ND (0.041)	ND (0.039)	0.0242 J (0.033)	0.825 (0.039)	ND (0.034)	0.0169 J (0.035)	ND (0.04)	ND (0.1)
Benzo(b)fluoranthene	76	190000	170	ND (0.035)	ND (0.041)	ND (0.039)	0.035 (0.033)	0.802 (0.039)	ND (0.034)	0.0177 J (0.035)	ND (0.04)	ND (0.1)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.035)	ND (0.041)	ND (0.039)	0.0292 J (0.033)	0.545 (0.039)	ND (0.034)	0.0212 J (0.035)	ND (0.04)	ND (0.1)
Chrysene	760	190000	230	ND (0.035)	ND (0.041)	ND (0.039)	0.0279 J (0.033)	0.983 (0.039)	ND (0.034)	0.0139 J (0.035)	ND (0.04)	ND (0.1)
Fluorene	130000	190000	3800	ND (0.035)	ND (0.041)	0.0934 (0.039)	ND (0.033)	0.386 (0.039)	ND (0.034)	ND (0.035)	ND (0.04)	ND (0.1)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.035)	ND (0.041)	ND (0.039)	ND (0.033)	0.314 (0.039)	ND (0.034)	ND (0.035)	ND (0.04)	ND (0.1)
Phenanthrene	190000	190000	10000	ND (0.035)	0.0402 J (0.041)	0.172 (0.039)	ND (0.033)	2.18 (0.039)	ND (0.034)	ND (0.035)	ND (0.04)	ND (0.1)
Pyrene	96000	190000	2200	0.0237 J (0.035)	0.0243 J (0.041)	0.0583 (0.039)	0.0295 J (0.033)	1.97 (0.039)	ND (0.034)	ND (0.035)	ND (0.04)	ND (0.1)
Metals												
Lead	1000	190000	450	13 (2.3)	15.2 (2.3)	18.5 (2)	79.1 (2.2)	222 (2.3)	4.2 (2.2)	14.2 (11)	10.9 (2.7)	4.3 (0.99)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	S-367	S-367	S-367	S-368	S-368	S-368	S-369	S-369	S-369
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	S-367_0-2'	S-367@14'_031313	S-367_031313@6'	AOI4_S-368_0-1_30513	AOI4_S-368_6-7_30513	S-368@14'_031413	S-369_0-2'	S-369_6-8'	S-369_8-10'
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	0.0 - 2.0	13.5 - 14.0	5.5 - 6.0	0.0 - 1.0	6.0 - 7.0	13.5 - 14.0	0.0 - 2.0	6.0 - 8.0	8.0 - 10.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	3/5/2013	3/13/2013	3/13/2013	3/5/2013	3/5/2013	3/14/2013	3/4/2013	3/4/2013	3/4/2013
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.00055)	0.00054 J (0.0012)	ND (0.095)	ND (0.001)	ND (0.11)	ND (0.0011)	ND (0.00062)	ND (0.0005)	ND (0.00065)
Cumene	10000	10000	2500	0.0135 (0.0028)	0.017 (0.0058)	0.431 J (0.47)	ND (0.0052)	ND (0.53)	0.0026 J (0.0054)	ND (0.0031)	ND (0.0025)	ND (0.0033)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00055)	ND (0.0012)	ND (0.095)	ND (0.001)	ND (0.11)	ND (0.0011)	ND (0.00062)	ND (0.0005)	ND (0.00065)
1,2-Dichloroethane	85	98	0.5	ND (0.00055)	ND (0.0012)	ND (0.095)	ND (0.001)	ND (0.11)	ND (0.0011)	ND (0.00062)	ND (0.0005)	ND (0.00065)
Ethyl Benzene	880	1000	70	0.00081 (0.00055)	ND (0.0012)	ND (0.095)	ND (0.001)	ND (0.11)	0.0059 (0.0011)	ND (0.00062)	ND (0.0005)	ND (0.00065)
Methyl tert-butyl ether	8500	9800	2	ND (0.00055)	ND (0.0012)	ND (0.095)	ND (0.001)	ND (0.11)	ND (0.0011)	ND (0.00062)	ND (0.0005)	ND (0.00065)
Toluene	10000	10000	100	0.00067 (0.00055)	ND (0.0012)	ND (0.095)	ND (0.001)	ND (0.11)	ND (0.0011)	ND (0.00062)	ND (0.0005)	ND (0.00065)
1,2,4-Trimethylbenzene	4700	5400	300	0.00059 J (0.0028)	ND (0.0058)	ND (0.47)	ND (0.0052)	ND (0.53)	0.0767 (0.0054)	ND (0.0031)	ND (0.0025)	ND (0.0033)
1,3,5-Trimethylbenzene	4700	5400	93	0.00027 J (0.0028)	ND (0.0058)	ND (0.47)	ND (0.0052)	ND (0.53)	0.0316 (0.0054)	ND (0.0031)	ND (0.0025)	ND (0.0033)
Xylenes (total)	7900	9100	1000	0.005 (0.00055)	ND (0.0012)	ND (0.095)	ND (0.001)	ND (0.11)	0.0075 (0.0011)	ND (0.00062)	ND (0.0005)	ND (0.00065)
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	0.209 (0.036)	ND (0.1)	ND (0.11)	ND (0.036)	ND (0.073)	ND (0.12)	ND (0.037)	ND (0.037)	ND (0.037)
Benzo(a)anthracene	130	190000	340	0.468 (0.036)	ND (0.1)	ND (0.11)	0.0324 J (0.036)	ND (0.073)	ND (0.12)	0.0178 J (0.037)	ND (0.037)	ND (0.037)
Benzo(a)pyrene	91	190000	46	0.402 (0.036)	ND (0.1)	ND (0.11)	0.0368 (0.036)	ND (0.073)	ND (0.12)	ND (0.037)	ND (0.037)	ND (0.037)
Benzo(b)fluoranthene	76	190000	170	0.409 (0.036)	ND (0.1)	ND (0.11)	0.0379 (0.036)	ND (0.073)	ND (0.12)	ND (0.037)	ND (0.037)	ND (0.037)
Benzo(g,h,i)perylene	190000	190000	180	0.346 (0.036)	ND (0.1)	ND (0.11)	0.0288 J (0.036)	ND (0.073)	ND (0.12)	ND (0.037)	ND (0.037)	ND (0.037)
Chrysene	760	190000	230	0.729 (0.036)	ND (0.1)	ND (0.11)	0.0358 J (0.036)	ND (0.073)	ND (0.12)	0.0182 J (0.037)	ND (0.037)	ND (0.037)
Fluorene	130000	190000	3800	0.394 (0.036)	ND (0.1)	ND (0.11)	ND (0.036)	ND (0.073)	ND (0.12)	ND (0.037)	ND (0.037)	ND (0.037)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.036)	ND (0.1)	ND (0.11)	ND (0.036)	ND (0.073)	ND (0.12)	ND (0.037)	ND (0.037)	ND (0.037)
Phenanthrene	190000	190000	10000	0.839 (0.036)	ND (0.1)	ND (0.11)	0.0205 J (0.036)	ND (0.073)	ND (0.12)	ND (0.037)	ND (0.037)	ND (0.037)
Pyrene	96000	190000	2200	1.04 (0.036)	ND (0.1)	ND (0.11)	0.0401 (0.036)	ND (0.073)	ND (0.12)	0.026 J (0.037)	ND (0.037)	ND (0.037)
Metals												
Lead	1000	190000	450	258 (2.3)	2.6 (1)	6.3 (1)	44.3 (2.2)	64 (2.3)	5.5 (0.99)	10.5 (2.4)	9.5 (2.4)	22.2 (2.3)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	S-369	S-369	S-373	S-379	S-379	S-379	S-380	S-380	S-381
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	S-369@11'_04022013	S-369@32'_04022013	AOI4-S-373_4-6'	S-379_0-2'	S-379_4-5'	S-379_8-9'	S-380_0-2'	S-380_8-10	AOI4-S-381_2-3_31513
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	10.5 - 11.0	31.5 - 32.0	4.0 - 6.0	0.0 - 2.0	4.0 - 5.0	8.0 - 9.0	0.0 - 2.0	8.0 - 10.0	2.0 - 3.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	4/2/2013	4/2/2013	3/19/2013	2/28/2013	2/28/2013	2/28/2013	3/1/2013	3/1/2013	3/15/2013
Comments	(0-2 ft)	(2-15 ft)	MSCs									
Volatile Organic Compounds												
Benzene	280	330	0.5	ND (0.00095)	4.4 (0.1)	1.25 (0.11)	ND (0.00088)	0.00024 J (0.00089)	ND (0.00045)	ND (0.0009)	ND (0.0006)	0.242 J (0.59)
Cumene	10000	10000	2500	ND (0.0048)	3.29 (0.51)	0.718 (0.54)	ND (0.0044)	ND (0.0044)	ND (0.0022)	ND (0.0045)	ND (0.003)	1.97 J (2.9)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00095)	ND (0.1)	ND (0.11)	ND (0.00088)	ND (0.00089)	ND (0.00045)	ND (0.0009)	ND (0.0006)	ND (0.59)
1,2-Dichloroethane	85	98	0.5	ND (0.00095)	ND (0.1)	ND (0.11)	ND (0.00088)	ND (0.00089)	ND (0.00045)	ND (0.0009)	ND (0.0006)	ND (0.59)
Ethyl Benzene	880	1000	70	ND (0.00095)	1.25 (0.1)	2.12 (0.11)	ND (0.00088)	ND (0.00089)	ND (0.00045)	ND (0.0009)	ND (0.0006)	5.54 (0.59)
Methyl tert-butyl ether	8500	9800	2	ND (0.00095)	ND (0.1)	ND (0.11)	ND (0.00088)	ND (0.00089)	ND (0.00045)	ND (0.0009)	ND (0.0006)	ND (0.59)
Toluene	10000	10000	100	ND (0.00095)	0.165 (0.1)	0.339 (0.11)	ND (0.00088)	ND (0.00089)	ND (0.00045)	ND (0.0009)	ND (0.0006)	0.419 J (0.59)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0048)	0.445 J (0.51)	2.56 (0.54)	ND (0.0044)	ND (0.0044)	ND (0.0022)	ND (0.0045)	ND (0.003)	29.9 (2.9)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0048)	0.8 (0.51)	2.88 (0.54)	ND (0.0044)	ND (0.0044)	ND (0.0022)	ND (0.0045)	ND (0.003)	11.9 (2.9)
Xylenes (total)	7900	9100	1000	ND (0.00095)	0.617 (0.1)	3.76 (0.11)	ND (0.00088)	ND (0.00089)	ND (0.00045)	ND (0.0009)	ND (0.0006)	17.7 (0.59)
Semivolatile Organic Compounds												
Anthracene	190000	190000	350	ND (0.04)	0.0934 (0.035)	ND (0.039)	ND (0.035)	0.0977 (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	ND (0.12)
Benzo(a)anthracene	130	190000	340	ND (0.04)	0.0356 (0.035)	ND (0.039)	ND (0.035)	0.223 (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	ND (0.12)
Benzo(a)pyrene	91	190000	46	ND (0.04)	ND (0.035)	ND (0.039)	ND (0.035)	0.194 (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	ND (0.12)
Benzo(b)fluoranthene	76	190000	170	ND (0.04)	ND (0.035)	ND (0.039)	ND (0.035)	0.225 (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	ND (0.12)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.04)	ND (0.035)	ND (0.039)	ND (0.035)	0.12 (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	ND (0.12)
Chrysene	760	190000	230	ND (0.04)	0.0477 (0.035)	ND (0.039)	ND (0.035)	0.229 (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	ND (0.12)
Fluorene	130000	190000	3800	ND (0.04)	0.402 (0.035)	0.221 (0.039)	ND (0.035)	0.043 (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	ND (0.12)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.04)	2.04 (0.035)	0.362 (0.039)	ND (0.035)	0.0194 J (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	1.18 (0.12)
Phenanthrene	190000	190000	10000	ND (0.04)	0.72 (0.035)	0.59 (0.039)	ND (0.035)	0.296 (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	ND (0.12)
Pyrene	96000	190000	2200	ND (0.04)	0.0898 (0.035)	ND (0.039)	ND (0.035)	0.351 (0.036)	ND (0.041)	ND (0.035)	ND (0.041)	ND (0.12)
Metals												
Lead	1000	190000	450	10.7 (2.6)	4.4 (2.3)	8.5 (1.9)	1.5 J (2.2)	206 (2.4)	10 (2.4)	24.3 (2.4)	8.1 (2.5)	2650 (5.6)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D1
Historical Soil Sampling Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	S-381	S-381	S-39D	S-39D	S-415	S-415	S-416	S-416
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	S-381 @ 12'_04242013	S-381 @ 24'_04252013	AOI4-S-39D-1.5-2-20160121	AOI4-S39D-7.5-8.0-20160208	AOI4_S-415_0-2_101215	AOI4_S-415_16-18_101215	AOI4-S-416-0-2-20160620	AOI4-S-416-14-15-20160711
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	11.5 - 12.0	23.5 - 24.0	1.5 - 2.0	7.5 - 8.0	0.0 - 2.0	16.0 - 18.0	0.0 - 2.0	14.0 - 15.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	4/24/2013	4/24/2013	1/21/2016	2/8/2016	10/12/2015	10/12/2015	6/20/2016	7/11/2016
Comments	(0-2 ft)	(2-15 ft)	MSCs								
Volatile Organic Compounds											
Benzene	280	330	0.5	0.0403 (0.00089)	1.11 (0.5)	ND (0.00065)	ND (0.00068)	0.0013 (0.00052)	ND (0.25)	0.00315 (0.00118)	ND (0.00112)
Cumene	10000	10000	2500	0.0033 J (0.0045)	11.7 (2.5)	ND (0.0026)	ND (0.0027)	ND (0.0021)	5.65 (1)	ND (0.0118)	ND (0.0112)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.0029)	ND (0.0029)	ND (0.0013)	NA	ND (0.0028)	ND (0.0026)	ND (0.00118)	ND (0.00112)
1,2-Dichloroethane	85	98	0.5	ND (0.00089)	ND (0.5)	ND (0.0013)	ND (0.0014)	ND (0.001)	ND (0.51)	ND (0.00118)	ND (0.00112)
Ethyl Benzene	880	1000	70	0.0021 (0.00089)	0.439 J (0.5)	ND (0.0013)	ND (0.0014)	ND (0.001)	ND (0.51)	ND (0.00118)	ND (0.00112)
Methyl tert-butyl ether	8500	9800	2	ND (0.00089)	ND (0.5)	ND (0.0013)	ND (0.0014)	ND (0.001)	ND (0.51)	ND (0.00118)	ND (0.00112)
Toluene	10000	10000	100	0.0076 (0.00089)	0.2 J (0.5)	ND (0.0013)	ND (0.0014)	0.00035 J (0.001)	ND (0.51)	ND (0.00591)	ND (0.00562)
1,2,4-Trimethylbenzene	4700	5400	300	0.0032 J (0.0045)	0.518 J (2.5)	ND (0.0026)	ND (0.0027)	ND (0.0021)	ND (1)	ND (0.00118)	ND (0.00112)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0045)	0.543 J (2.5)	ND (0.0026)	ND (0.0027)	ND (0.0021)	ND (1)	ND (0.00118)	ND (0.00112)
Xylenes (total)	7900	9100	1000	0.0056 (0.00089)	1.01 (0.5)	ND (0.0013)	ND (0.0014)	0.0007 J (0.001)	ND (0.51)	ND (0.00355)	ND (0.00337)
Semivolatile Organic Compounds											
Anthracene	190000	190000	350	ND (0.11)	1.79 (0.12)	ND (0.035)	ND (0.034)	0.0698 (0.037)	0.156 (0.035)	ND (0.039)	0.0505 (0.0371)
Benzo(a)anthracene	130	190000	340	ND (0.11)	ND (0.12)	ND (0.035)	ND (0.034)	0.249 (0.037)	0.0595 (0.035)	ND (0.039)	0.137 (0.0371)
Benzo(a)pyrene	91	190000	46	ND (0.11)	ND (0.12)	ND (0.035)	ND (0.034)	0.316 (0.037)	0.0379 (0.035)	ND (0.039)	0.104 (0.0371)
Benzo(b)fluoranthene	76	190000	170	ND (0.11)	ND (0.12)	ND (0.035)	ND (0.034)	0.395 (0.037)	0.0258 J (0.035)	0.0446 (0.039)	0.13 (0.0371)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.11)	ND (0.12)	ND (0.035)	ND (0.034)	0.228 (0.037)	0.0143 J (0.035)	ND (0.039)	0.0548 (0.0371)
Chrysene	760	190000	230	ND (0.11)	0.0624 J (0.12)	ND (0.035)	ND (0.034)	0.245 (0.037)	0.0736 (0.035)	ND (0.039)	0.118 (0.0371)
Fluorene	130000	190000	3800	ND (0.11)	5.02 (0.12)	ND (0.035)	ND (0.034)	0.0196 J (0.037)	0.536 (0.035)	ND (0.039)	ND (0.0371)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	ND (0.039)	0.0516 (0.0371)
Naphthalene	66	77	25	ND (0.11)	5.48 (0.12)	ND (0.035)	ND (0.034)	0.0651 (0.037)	ND (0.035)	ND (0.039)	ND (0.0371)
Phenanthrene	190000	190000	10000	ND (0.11)	13 (0.58)	ND (0.035)	ND (0.034)	0.254 (0.037)	1.04 (0.035)	ND (0.039)	0.164 (0.0371)
Pyrene	96000	190000	2200	ND (0.11)	1.11 (0.12)	ND (0.035)	ND (0.034)	0.329 (0.037)	0.143 (0.035)	ND (0.039)	0.219 (0.0371)
Metals											
Lead	1000	190000	450	8.5 (0.9)	5.6 (0.9)	49.5 (6.6)	5.2 (2.1)	241 (2.2)	3.9 (2.1)	86.2 (0.591)	63.5 (0.562)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 Only Short List 1-6 analytes are shown.
3 IQ is an unknown qualifier.
4 Gray shaded concentrations indicate that either a surface sample exceeds the NonRes DC Surface MSC (0-2 ft) or a subsurface sample exceeds the NonRes DC Subsurface MSC (2-15 ft).
5 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
D - A compound in the analysis has been diluted
J - Estimated Concentration

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	AOI4-BH-20-01	AOI4-BH-20-01	AOI4-BH-20-02	AOI4-BH-20-03	AOI4-BH-20-03	AOI4-BH-20-03	AOI4-BH-20-03	AOI4-BH-20-03	AOI4-BH-20-03
Field Sample ID	Groundwater MSC	CD-01-W-18-20200805	CD-01-W-41.5-20200807	CD-02-25-20200803	CD-3-W-25.0-20200728_410-14623-1	CD-3-W-25.0-20200728_410-8907-1	CD-3-W-46.0-20200729_410-14623-1	CD-3-W-46.0-20200729_410-9021-1	CD-3-W-82.0-20200730_410-14623-1	CD-3-W-82.0-20200730_410-9160-1
Sample Date	Used Aquifer	8/5/2020	8/7/2020	8/3/2020	7/28/2020	7/28/2020	7/29/2020	7/29/2020	7/30/2020	7/30/2020
Comments	(TDS ≤ 2500)									
Volatile Organic Compounds										
Benzene	0.005	0.00022 J (0.001)	0.45 (0.005)	2.4 (0.1)	NA	4.5 (0.05)	NA	0.39 (0.005)	NA	0.95 (0.005)
Cumene	3.5	0.04 (0.005)	0.015 J (0.025)	0.023 J (0.05)	NA	0.035 (0.025)	NA	0.0045 J (0.025)	NA	0.014 J (0.025)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000029)	ND (0.000029)	ND,H,H3 (0.00003)	NA	ND,H,H3 (0.000029)	NA	ND,H,H3 (0.000035)	NA
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.005)	ND (0.01)	NA	ND (0.005)	NA	ND (0.005)	NA	ND (0.005)
Ethyl Benzene	0.7	0.31 (0.01)	0.026 (0.005)	0.57 (0.01)	NA	0.76 (0.05)	NA	0.0057 (0.005)	NA	0.014 (0.005)
Methyl tert-butyl ether	0.02	0.0008 J (0.001)	0.011 (0.005)	ND (0.01)	NA	0.0012 J (0.005)	NA	0.014 (0.005)	NA	0.046 (0.005)
Toluene	1	0.0005 J (0.001)	0.054 (0.005)	4.2 (0.1)	NA	3.8 (0.05)	NA	0.051 (0.005)	NA	0.086 (0.005)
1,2,4-Trimethylbenzene	0.53	0.57 (0.05)	0.07 (0.025)	0.82 (0.05)	NA	0.73 (0.25)	NA	0.091 (0.025)	NA	ND (0.025)
1,3,5-Trimethylbenzene	0.53	0.24 (0.05)	0.026 (0.025)	0.26 (0.05)	NA	0.29 (0.025)	NA	0.038 (0.025)	NA	0.015 J (0.025)
Xylenes (total)	10	0.6 (0.06)	0.15 (0.03)	3.6 (0.06)	NA	1.9 (0.03)	NA	0.24 (0.03)	NA	0.22 (0.03)
Semivolatile Organic Compounds										
Anthracene	0.066	0.00029 J (0.00051)	0.00019 J (0.00051)	ND (0.0005)	NA	ND (0.00051)	NA	ND,H3 (0.00051)	NA	ND (0.00051)
Benzo(a)anthracene	0.0039	0.00043 J (0.00051)	0.00054 (0.00051)	ND (0.0005)	NA	ND (0.00051)	NA	ND (0.00051)	NA	ND (0.00051)
Benzo(a)pyrene	0.0002	0.00038 J (0.00051)	ND (0.00051)	ND (0.0005)	NA	ND (0.00051)	NA	ND,H3 (0.00051)	NA	ND (0.00051)
Benzo(b)fluoranthene	0.0012	0.00039 J (0.00051)	ND (0.00051)	ND (0.0005)	NA	ND (0.00051)	NA	ND,H3 (0.00051)	NA	ND (0.00051)
Benzo(g,h,i)perylene	0.00026	0.00025 J (0.00051)	ND (0.00051)	ND (0.0005)	NA	ND (0.00051)	NA	ND,H3 (0.00051)	NA	ND (0.00051)
Chrysene	0.0019	0.00056 (0.00051)	ND (0.00051)	ND (0.0005)	NA	ND (0.00051)	NA	ND (0.00051)	NA	ND (0.00051)
Fluorene	1.9	ND (0.00051)	0.0002 J (0.00051)	ND (0.0005)	NA	ND (0.00051)	NA	ND,H3 (0.00051)	NA	ND (0.00051)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.13 (0.0025)	0.0098 (0.00051)	0.24 (0.0025)	NA	0.28 (0.0051)	NA	0.0051 (0.00051)	NA	0.0016 (0.00051)
Phenanthrene	1.1	0.00089 (0.00051)	0.00064 (0.00051)	ND (0.0005)	NA	0.00012 J (0.00051)	NA	ND,H3 (0.00051)	NA	ND (0.00051)
Pyrene	0.13	0.00085 (0.00051)	0.00034 J (0.00051)	ND (0.0005)	NA	ND (0.00051)	NA	ND (0.00051)	NA	ND (0.00051)
Metals										
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.00052)	ND (0.00052)	ND (0.00052)	NA	ND (0.00052)	NA	ND (0.00052)	NA	ND (0.00052)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	AOI4-BH-20-04	AOI4-BH-20-04	ARCO-2	ARCO-2	ARCO-2	ARCO-2	ARCO-2	ARCO-2	ARCO-2	ARCO-2
Field Sample ID	Groundwater MSC	CD-6B-W-45.0-20200630_410-14623-1	CD-6B-W-45.0-20200630_410-6241-1	ARCO-2-20160818-WG	ARCO-2-20161011-WG	ARCO-2_20190708	ARCO-2_20191101	D-2_BASE_GRAB_20191205	D-2_20210507_410-39177-1	ARCO-2_20220330_42387	ARCO-2_20230502
Sample Date	Used Aquifer	6/30/2020	6/30/2020	8/18/2016	10/11/2016	7/8/2019	11/1/2019	12/5/2019	5/7/2021	3/30/2022	5/2/2023
Comments	(TDS ≤ 2500)										
Volatile Organic Compounds											
Benzene	0.005	NA	0.27 (0.005)	NA	NA	NA	0.26 (0.005)	0.33455 (0.018)	0.32 (0.005)	0.36 (0.0025)	0.304 (0.002)
Cumene	3.5	NA	0.01 J (0.025)	NA	NA	NA	0.04 (0.025)	0.05867 (0.0006)	0.081 (0.025)	0.0795 (0.001)	0.0884 (0.001)
1,2-Dibromoethane	0.00005	ND,H,H3 (0.000029)	NA	NA	NA	NA	ND (0.000028)	ND (0.00271)	ND (0.000028)	ND (0.00002)	ND (0.000032)
1,2-Dichloroethane	0.005	NA	ND (0.005)	NA	NA	NA	ND (0.025)	ND (0.00135)	ND (0.005)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	NA	0.044 (0.005)	NA	NA	NA	0.009 (0.005)	0.0105 (0.0006)	0.018 (0.005)	0.009 (0.001)	0.0115 (0.001)
Methyl tert-butyl ether	0.02	NA	0.0093 (0.005)	NA	NA	NA	ND (0.005)	ND (0.00045)	ND (0.005)	ND (0.001)	ND (0.001)
Toluene	1	NA	0.069 (0.005)	NA	NA	NA	0.026 (0.005)	0.03576 (0.00045)	0.04 (0.005)	0.0374 (0.001)	0.0416 (0.001)
1,2,4-Trimethylbenzene	0.53	NA	0.15 (0.025)	NA	NA	NA	0.004 J (0.025)	ND (0.0006)	ND (0.025)	ND (0.002)	ND (0.002)
1,3,5-Trimethylbenzene	0.53	NA	0.058 (0.025)	NA	NA	NA	0.004 J (0.025)	0.00413 (0.0006)	0.0058 J (0.025)	0.0043 (0.002)	0.0048 (0.002)
Xylenes (total)	10	NA	0.32 (0.03)	NA	NA	NA	0.043 (0.015)	0.03569 J (0.0006)	0.076 (0.03)	0.0707 (0.001)	0.0772 (0.001)
Semivolatile Organic Compounds											
Anthracene	0.066	NA	ND (0.00052)	NA	NA	0.0001 J (0.0005)	ND (0.0005)	NA	0.00012 J (0.00052)	0.000115 (0.000075)	0.00011 (0.000083)
Benzo(a)anthracene	0.0039	NA	ND (0.00052)	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000038)	ND (0.000042)
Benzo(a)pyrene	0.0002	NA	ND (0.00052)	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000038)	ND (0.000042)
Benzo(b)fluoranthene	0.0012	NA	ND (0.00052)	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000038)	ND (0.000042)
Benzo(g,h,i)perylene	0.00026	NA	ND (0.00052)	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000075)	ND (0.000083)
Chrysene	0.0019	NA	ND (0.00052)	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000075)	ND (0.000083)
Fluorene	1.9	NA	ND (0.00052)	NA	NA	0.002 (0.0005)	0.001 (0.0005)	NA	0.0018 (0.00052)	0.00114 (0.000075)	0.00134 (0.000083)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	ND,OE (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	NA	0.022 (0.00052)	NA	NA	NA	ND (0.0005)	ND (0.00151)	0.0016 (0.00052)	0.000915 B (0.000075)	ND (0.000083)
Phenanthrene	1.1	NA	ND (0.00052)	NA	NA	0.002 (0.0005)	0.0004 J (0.0005)	NA	0.0014 (0.00052)	0.000969 (0.000075)	0.000969 (0.000083)
Pyrene	0.13	NA	ND (0.00052)	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	0.0000524 J (0.000075)	0.0000486 J (0.000083)
Metals											
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	0.011 (0.00052)	NA	NA	ND (0.003)	0.00024 J (0.0005)	NA	0.0001 J (0.00052)	ND (0.001)	ND (0.001)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:
ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	ARCO-3	ARCO-3	ARCO-3	ARCO-3	ARCO-3	ARCO-3	ARCO-3	ARCO-3	BF-101	BF-101	BF-101
Field Sample ID	Groundwater MSC	ARCO-3-20160818-WG	ARCO-3-20161011-WG	ARCO-3_20190708	ARCO-3_20191101	ARCO-3_BASE_GRAB_20191205	ARCO-3_20210507_410-39177-1	ARCO-3_20220330_42387	ARCO-3_20230502	AOI3_BF-101_060515	AOI3_BF-101_061615	AOI3_BF-101_010616
Sample Date	Used Aquifer	8/18/2016	10/11/2016	7/8/2019	11/1/2019	12/5/2019	5/7/2021	3/30/2022	5/2/2023	6/5/2015	6/16/2015	1/6/2016
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	NA	NA	1.6 (0.05)	1.43388 (0.018)	1.8 (0.05)	2.81 (0.05)	1.88 (0.01)	ND (0.001)	NA	ND (0.0005)
Cumene	3.5	NA	NA	NA	0.051 (0.025)	0.05599 (0.0006)	0.071 (0.025)	0.0619 (0.01)	0.0601 (0.005)	ND (0.001)	NA	ND (0.001)
1,2-Dibromoethane	0.00005	NA	NA	NA	ND (0.000028)	ND (0.00271)	ND (0.000028)	ND (0.00002)	ND (0.00002)	ND (0.00004)	NA	ND (0.000019)
1,2-Dichloroethane	0.005	NA	NA	NA	ND (0.025)	ND (0.00135)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.001)	NA	ND (0.001)
Ethyl Benzene	0.7	NA	NA	NA	0.031 (0.005)	0.04325 (0.0006)	0.043 (0.005)	0.0534 (0.01)	0.0234 (0.005)	0.0022 (0.001)	NA	ND (0.001)
Methyl tert-butyl ether	0.02	NA	NA	NA	ND (0.005)	0.00067 J (0.00045)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.001)	NA	ND (0.001)
Toluene	1	NA	NA	NA	0.068 (0.005)	0.11218 (0.00453)	0.095 (0.005)	0.129 (0.01)	0.09 (0.005)	0.004 (0.001)	NA	ND (0.001)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	0.011 J (0.025)	0.01275 (0.0006)	0.0072 J (0.025)	ND (0.02)	0.0077 J (0.01)	0.0026 (0.001)	NA	ND (0.002)
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	0.013 J (0.025)	0.01672 (0.0006)	0.012 J (0.025)	0.0145 J (0.02)	0.0139 (0.01)	0.00077 J (0.001)	NA	ND (0.002)
Xylenes (total)	10	NA	NA	NA	0.074 (0.015)	0.10489 J (0.0006)	0.097 (0.03)	0.103 (0.01)	0.093 (0.005)	0.0122 (0.003)	NA	ND (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	0.0002 J (0.0005)	ND (0.0005)	NA	0.00012 J (0.00052)	0.000147 (0.000074)	0.0000797 J (0.000083)	NA	0.000025 J (0.0001)	ND (0.00011)
Benzo(a)anthracene	0.0039	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000037)	ND (0.000042)	NA	ND (0.0001)	ND (0.000056)
Benzo(a)pyrene	0.0002	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000037)	ND (0.000042)	NA	ND (0.0001)	ND (0.000056)
Benzo(b)fluoranthene	0.0012	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000037)	ND (0.000042)	NA	ND (0.0001)	ND (0.00011)
Benzo(g,h,i)perylene	0.00026	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000074)	ND (0.000083)	NA	ND (0.0001)	ND (0.00011)
Chrysene	0.0019	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	ND (0.000074)	ND (0.000083)	NA	ND (0.0001)	ND (0.00011)
Fluorene	1.9	NA	NA	0.002 (0.0005)	0.001 (0.0005)	NA	0.0015 (0.00052)	0.00112 (0.000074)	0.000971 (0.000083)	NA	ND (0.0001)	ND (0.00011)
Indeno(1,2,3-cd)pyrene	0.0023	ND,OE (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	NA	NA	NA	0.009 (0.0005)	0.03892 (0.00151)	0.014 (0.00052)	0.0151 B (0.00074)	0.0033 (0.000083)	NA	ND (0.0001)	ND (0.00011)
Phenanthrene	1.1	NA	NA	0.001 (0.0005)	0.0009 (0.0005)	NA	0.0011 (0.00052)	0.000766 (0.000074)	0.000695 (0.000083)	NA	ND (0.0001)	ND (0.00011)
Pyrene	0.13	NA	NA	ND (0.0005)	ND (0.0005)	NA	ND (0.00052)	0.0000407 J (0.000074)	0.0000423 J (0.000083)	NA	ND (0.0001)	ND (0.00011)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	ND (0.003)	0.00018 J (0.0005)	NA	0.00022 J (0.00052)	ND (0.001)	ND (0.001)	ND (0.005)	NA	ND (0.003)

Notes:

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Abbreviations:

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SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	MW-1	MW-1	RW-700	RW-700	RW-700	RW-700	RW-700	RW-700	RW-700	RW-700	RW-700
Field Sample ID	Groundwater MSC	MW1-050605	MW-4_06_17_2013	RW-700-121312	RW 700	RW-700-20160817-WG	RW-700-20160817-WG DUP	RW-700-20161012-WG	RW-700_20230208	RW-700_20230302	RW-700_20230321	RW-700_20230425
Sample Date	Used Aquifer	5/6/2005	6/17/2013	12/13/2012	2/26/2014	8/17/2016	8/17/2016	10/12/2016	2/8/2023	3/2/2023	3/21/2023	4/25/2023
Comments	(TDS ≤ 2500)						Field Duplicate					
Volatile Organic Compounds												
Benzene	0.005	0.1 (0.005)	0.128 MS (0.001)	NA	NA	NA	NA	NA	0.0043 (0.0005)	0.0107 (0.0005)	0.0234 (0.0005)	0.123 (0.0005)
Cumene	3.5	0.01 (0.005)	0.0035 MS (0.002)	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-Dibromoethane	0.00005	ND (0.000028)	ND,MS (0.00002)	NA	NA	NA	NA	NA	ND (0.00002)	ND (0.00002)	ND (0.000021)	ND (0.000021)
1,2-Dichloroethane	0.005	ND (0.005)	ND,MS (0.001)	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.019 (0.005)	0.00091 J,MS (0.001)	NA	NA	NA	NA	NA	0.00088 J (0.001)	0.0034 (0.001)	0.0022 (0.001)	0.0012 (0.001)
Methyl tert-butyl ether	0.02	ND (0.005)	0.0112 MS (0.001)	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Toluene	1	0.01 (0.005)	0.0101 MS (0.001)	NA	NA	NA	NA	NA	ND (0.001)	0.0034 (0.001)	0.0019 (0.001)	0.003 (0.001)
1,2,4-Trimethylbenzene	0.53	NA	0.0015 J,MS (0.002)	NA	NA	NA	NA	NA	0.0017 J (0.002)	0.0094 (0.002)	0.0045 (0.002)	0.0069 (0.002)
1,3,5-Trimethylbenzene	0.53	NA	0.0037 MS (0.002)	NA	NA	NA	NA	NA	ND (0.002)	0.0042 (0.002)	0.0015 J (0.002)	0.0016 J (0.002)
Xylenes (total)	10	0.027 (0.005)	0.0081 MS (0.001)	NA	NA	NA	NA	NA	0.0046 (0.001)	0.0188 (0.001)	0.0106 (0.001)	0.008 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	ND,MS (0.00011)	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000082)	ND (0.000083)	0.000166 (0.00008)
Benzo(a)anthracene	0.0039	NA	0.00244 MS (0.00011)	NA	NA	NA	NA	NA	ND (0.00004)	ND (0.000041)	0.0000266 J (0.000042)	0.0000369 J (0.00004)
Benzo(a)pyrene	0.0002	NA	0.00245 MS (0.00011)	NA	NA	NA	NA	NA	ND (0.00004)	ND (0.000041)	ND (0.000042)	ND (0.00004)
Benzo(b)fluoranthene	0.0012	NA	0.00248 MS (0.00011)	NA	NA	NA	NA	NA	ND (0.00004)	ND (0.000041)	0.0000498 (0.000042)	ND (0.00004)
Benzo(g,h,i)perylene	0.00026	NA	0.00183 MS (0.00011)	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000082)	0.000115 (0.000083)	ND (0.00008)
Chrysene	0.0019	ND (0.01)	0.00294 MS (0.00011)	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000082)	0.0000521 J (0.000083)	ND (0.00008)
Fluorene	1.9	ND (0.01)	ND,MS (0.00011)	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000082)	0.0000483 J (0.000083)	0.000414 (0.00008)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	ND (0.0025)	NA	NA	NA	NA
Naphthalene	0.1	0.032 (0.01)	0.0277 MS (0.0011)	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000082)	0.0000746 J (0.000083)	0.000687 (0.00008)
Phenanthrene	1.1	ND (0.01)	0.00454 MS (0.00011)	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000082)	0.0000481 J (0.000083)	0.000301 (0.00008)
Pyrene	0.13	ND (0.01)	0.00372 MS (0.00011)	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000082)	ND (0.000083)	0.000147 (0.00008)
Metals												
Lead	0.005	ND (0.001)	NA	NA	0.0042 (0.003)	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	ND,MS (0.003)	ND (0.003)	NA	ND (0.002)	ND (0.002)	ND (0.002)	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
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XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-700	RW-701	RW-701	RW-701	RW-701	RW-701	RW-701	RW-701	RW-701	RW-701	RW-701
Field Sample ID	Groundwater MSC	RW-700_20230531	RW 701	RW-701-20160817-WG	RW-701-20161012-WG	RW-701_20180629	RW-701_20190620	RW-701_20191028	RW-701_20210510	RW-701_20220406	RW-701_20230425	RW-701_20230531
Sample Date	Used Aquifer	5/31/2023	2/26/2014	8/17/2016	10/12/2016	6/29/2018	6/20/2019	10/28/2019	5/10/2021	4/6/2022	4/25/2023	5/31/2023
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.044 (0.0005)	NA	NA	NA	NA	NA	NA	NA	NA	0.11 (0.0005)	0.19 (0.005)
Cumene	3.5	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)
1,2-Dibromoethane	0.00005	ND (0.00002)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.000021)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.0015 (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	0.0084 (0.001)	0.0155 (0.001)
Methyl tert-butyl ether	0.02	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)
Toluene	1	0.0015 (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	0.003 (0.001)	0.0052 (0.001)
1,2,4-Trimethylbenzene	0.53	0.0046 (0.002)	NA	NA	NA	NA	NA	NA	NA	NA	0.0133 (0.002)	0.035 (0.002)
1,3,5-Trimethylbenzene	0.53	ND (0.002)	NA	NA	NA	NA	NA	NA	NA	NA	0.0015 J (0.002)	0.0125 (0.002)
Xylenes (total)	10	0.0065 (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	0.011 (0.001)	0.0443 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	0.0000403 J (0.00008)	NA	NA	NA	NA	NA	NA	NA	NA	0.000134 (0.00008)	0.0000649 J (0.000083)
Benzo(a)anthracene	0.0039	0.0000445 (0.00004)	NA	NA	NA	NA	NA	NA	NA	NA	0.0000278 J (0.00004)	ND (0.000042)
Benzo(a)pyrene	0.0002	0.0000311 J (0.00004)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00004)	ND (0.000042)
Benzo(b)fluoranthene	0.0012	0.000128 (0.00004)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00004)	ND (0.000042)
Benzo(g,h,i)perylene	0.00026	0.000159 (0.00008)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000083)
Chrysene	0.0019	0.0000455 J (0.00008)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000083)
Fluorene	1.9	0.0000825 (0.00008)	NA	NA	NA	NA	NA	NA	NA	NA	0.000416 (0.00008)	0.000153 (0.000083)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	ND (0.00005)	ND (0.0025)	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.000154 B (0.00008)	NA	NA	NA	NA	NA	NA	NA	NA	0.000469 (0.00008)	0.000479 B (0.000083)
Phenanthrene	1.1	0.0000572 JB (0.00008)	NA	NA	NA	NA	NA	NA	NA	NA	0.000277 (0.00008)	0.000089 B (0.000083)
Pyrene	0.13	0.0000473 J (0.00008)	NA	NA	NA	NA	NA	NA	NA	NA	0.000118 (0.00008)	0.0000631 J (0.000083)
Metals												
Lead	0.005	NA	0.0053 (0.003)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	NA	ND,SL (0.002)	ND (0.003)	0.00057 (0.0005)	0.00026 J (0.00052)	ND (0.001)	NA	NA

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
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Abbreviations:
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J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-701	RW-701	RW-701	RW-702	RW-702	RW-702	RW-702	RW-702	RW-702	RW-702	RW-702
Field Sample ID	Groundwater MSC	RW-701_20230912	RW-701_20231019	RW-701_20231215	RW-702_12142012	RW 702	RW-702-20160817-WG	RW-702-20161012-WG	RW-702_20230426	RW-702_20230531	RW-702_20230912	RW-702_20231019
Sample Date	Used Aquifer	9/12/2023	10/19/2023	12/15/2023	12/14/2012	2/26/2014	8/17/2016	10/12/2016	4/26/2023	5/31/2023	9/12/2023	10/19/2023
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.0116 (0.0005)	0.0052 (0.0005)	0.00059 (0.0005)	NA	NA	NA	NA	8.59 (0.025)	9.7 (0.025)	9.67 (0.05)	6.8 (0.025)
Cumene	3.5	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	NA	ND (0.05)	ND (0.05)	0.0251 (0.025)	ND (0.05)
1,2-Dibromoethane	0.00005	ND (0.000021)	ND (0.000021)	ND (0.000021)	NA	NA	NA	NA	ND (0.00002)	ND (0.00002)	ND (0.000021)	ND (0.000021)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	NA	ND (0.05)	ND (0.05)	ND (0.025)	ND (0.05)
Ethyl Benzene	0.7	0.0011 (0.001)	0.00061 J (0.001)	ND (0.001)	NA	NA	NA	NA	0.466 (0.05)	0.353 (0.05)	0.602 (0.025)	0.456 (0.05)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	NA	0.0456 J (0.05)	0.041 J (0.05)	0.0401 (0.025)	0.0374 J (0.05)
Toluene	1	0.001 (0.001)	0.0008 J (0.001)	ND (0.001)	NA	NA	NA	NA	0.316 (0.05)	0.302 (0.05)	0.291 (0.025)	0.215 (0.05)
1,2,4-Trimethylbenzene	0.53	0.004 (0.002)	0.0025 (0.002)	0.0015 J (0.002)	NA	NA	NA	NA	0.491 (0.1)	0.157 (0.1)	0.53 (0.05)	0.433 (0.1)
1,3,5-Trimethylbenzene	0.53	0.002 (0.002)	0.0014 J (0.002)	ND (0.002)	NA	NA	NA	NA	0.154 (0.1)	0.059 J (0.1)	0.17 (0.05)	0.137 (0.1)
Xylenes (total)	10	0.0041 (0.001)	0.002 (0.001)	ND (0.001)	NA	NA	NA	NA	2.5 (0.05)	1.56 (0.05)	2.62 (0.025)	1.93 (0.05)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00011)	ND (0.000074)	ND (0.000077)	NA	NA	NA	NA	0.000736 (0.000074)	0.000624 (0.000083)	0.000247 (0.00011)	0.000371 (0.00008)
Benzo(a)anthracene	0.0039	0.000123 (0.000053)	ND (0.000037)	ND (0.000038)	NA	NA	NA	NA	ND (0.000037)	ND (0.000042)	ND (0.000056)	ND (0.00004)
Benzo(a)pyrene	0.0002	0.0000503 JB (0.000053)	ND (0.000037)	ND (0.000038)	NA	NA	NA	NA	ND (0.000037)	ND (0.000042)	ND (0.000056)	ND (0.00004)
Benzo(b)fluoranthene	0.0012	0.0000963 B (0.000053)	ND (0.000037)	0.0000282 J (0.000038)	NA	NA	NA	NA	ND (0.000037)	ND (0.000042)	ND (0.000056)	ND (0.00004)
Benzo(g,h,i)perylene	0.00026	ND (0.00011)	ND (0.000074)	ND (0.000077)	NA	NA	NA	NA	ND (0.000074)	ND (0.000083)	ND (0.00011)	ND (0.00008)
Chrysene	0.0019	0.000128 (0.00011)	ND (0.000074)	ND (0.000077)	NA	NA	NA	NA	ND (0.000074)	ND (0.000083)	ND (0.00011)	ND (0.00008)
Fluorene	1.9	ND (0.00011)	ND (0.000074)	ND (0.000077)	NA	NA	NA	NA	0.00245 (0.000074)	0.00223 (0.000083)	0.00186 (0.00011)	0.00159 (0.00008)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.0025)	NA	NA	NA	NA
Naphthalene	0.1	0.00031 (0.00011)	ND (0.000074)	0.0000518 J (0.000077)	NA	NA	NA	NA	0.116 (0.0037)	0.144 B (0.017)	0.0862 (0.0022)	0.0852 (0.0032)
Phenanthrene	1.1	ND (0.00011)	ND (0.000074)	ND (0.000077)	NA	NA	NA	NA	0.00548 (0.0037)	0.00706 B (0.00042)	0.0026 B (0.00011)	0.0022 (0.00008)
Pyrene	0.13	0.0000618 J (0.00011)	ND (0.000074)	ND (0.000077)	NA	NA	NA	NA	0.000142 (0.000074)	0.0000936 (0.000083)	0.0000784 J (0.00011)	0.0000803 (0.00008)
Metals												
Lead	0.005	NA	NA	NA	NA	0.0044 (0.003)	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	ND (0.003)	NA	ND (0.002)	ND (0.002)	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
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3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

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J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
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SL - Sample was collected below LNAPL
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XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-702	RW-703	RW-703	RW-703	RW-703	RW-703	RW-703	RW-703	RW-703	RW-703	RW-703
Field Sample ID	Groundwater MSC	RW-702_20231213	RW 703	RW-703-20160817-WG	RW-703-20161012-WG	RW-703_20190620	RW-703_20191029	RW-703_20200903	03_20210510_410-39343-1	RW-703_20220405_42610	RW-703_20230425	RW-703_20230531
Sample Date	Used Aquifer	12/13/2023	2/26/2014	8/17/2016	10/12/2016	6/20/2019	10/29/2019	9/3/2020	5/10/2021	4/5/2022	4/25/2023	5/31/2023
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	8.88 (0.05)	NA	NA	NA	NA	NA	NA	NA	NA	4.65 (0.05)	5.39 (0.025)
Cumene	3.5	0.0274 (0.025)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.025)	ND (0.02)
1,2-Dibromoethane	0.00005	ND (0.00002)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00002)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.025)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.025)	ND (0.02)
Ethyl Benzene	0.7	0.667 (0.025)	NA	NA	NA	NA	NA	NA	NA	NA	0.352 (0.025)	0.358 (0.02)
Methyl tert-butyl ether	0.02	0.039 (0.025)	NA	NA	NA	NA	NA	NA	NA	NA	0.0535 (0.025)	0.0515 (0.02)
Toluene	1	0.317 (0.025)	NA	NA	NA	NA	NA	NA	NA	NA	0.144 (0.025)	0.131 (0.02)
1,2,4-Trimethylbenzene	0.53	0.591 (0.05)	NA	NA	NA	NA	NA	NA	NA	NA	0.396 (0.05)	0.454 (0.04)
1,3,5-Trimethylbenzene	0.53	0.185 (0.05)	NA	NA	NA	NA	NA	NA	NA	NA	0.144 (0.05)	0.173 (0.04)
Xylenes (total)	10	2.88 (0.025)	NA	NA	NA	NA	NA	NA	NA	NA	1.97 (0.025)	2.04 (0.02)
Semivolatile Organic Compounds												
Anthracene	0.066	0.000363 B,H (0.000074)	NA	NA	NA	NA	NA	NA	NA	NA	0.000199 (0.00008)	0.000604 (0.000082)
Benzo(a)anthracene	0.0039	ND,H (0.000037)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00004)	ND (0.000041)
Benzo(a)pyrene	0.0002	ND,H (0.000037)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00004)	ND (0.000041)
Benzo(b)fluoranthene	0.0012	ND,H (0.000037)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00004)	ND (0.000041)
Benzo(g,h,i)perylene	0.00026	ND,H (0.000074)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000082)
Chrysene	0.0019	ND,H (0.000074)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.000082)
Fluorene	1.9	0.00195 B,H (0.000074)	NA	NA	NA	NA	NA	NA	NA	NA	0.00146 (0.00008)	0.00337 (0.000082)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	ND (0.0001)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.0857 H (0.003)	NA	NA	NA	NA	NA	NA	NA	NA	0.0196 (0.0004)	0.0677 B (0.016)
Phenanthrene	1.1	0.0028 B,H (0.000074)	NA	NA	NA	NA	NA	NA	NA	NA	0.00162 (0.00008)	0.00263 B (0.000082)
Pyrene	0.13	0.000136 H (0.000074)	NA	NA	NA	NA	NA	NA	NA	NA	0.0000777 J (0.00008)	0.000137 (0.000082)
Metals												
Lead	0.005	NA	0.0031 (0.003)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	NA	ND (0.003)	0.00053 (0.0005)	ND (0.00052)	ND (0.00052)	ND (0.001)	NA	NA

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-703	RW-703	RW-703	RW-704	RW-704	RW-704	RW-704	RW-704	RW-704	RW-704	RW-704
Field Sample ID	Groundwater MSC	RW-703_20230912	RW-703_20231019	RW-703_20231215	RW-704_12142012	RW 704	RW-704-20161013-WG	RW-704_20230208	RW-704_20230302	RW-704_20230321	RW-704_20230425	RW-704_20230531
Sample Date	Used Aquifer	9/12/2023	10/19/2023	12/15/2023	12/14/2012	2/26/2014	10/13/2016	2/8/2023	3/2/2023	3/21/2023	4/25/2023	5/31/2023
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	9.29 (0.05)	6.16 (0.025)	5.54 (0.025)	NA	NA	NA	2.75 (0.025)	4.01 (0.013)	3.11 (0.05)	3.92 (0.013)	2.57 (0.025)
Cumene	3.5	ND (0.025)	ND (0.05)	0.0133 J (0.02)	NA	NA	NA	ND (0.005)	ND (0.025)	ND (0.01)	ND (0.025)	ND (0.01)
1,2-Dibromoethane	0.00005	ND (0.000021)	ND (0.000019)	ND (0.00002)	NA	NA	NA	ND (0.00002)	ND (0.00002)	ND (0.00002)	ND (0.000021)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.025)	ND (0.05)	ND (0.02)	NA	NA	NA	ND (0.005)	ND (0.025)	ND (0.01)	ND (0.025)	ND (0.01)
Ethyl Benzene	0.7	0.367 (0.025)	0.419 (0.05)	0.46 (0.02)	NA	NA	NA	0.015 (0.005)	0.119 (0.025)	0.116 (0.01)	0.177 (0.025)	0.127 (0.01)
Methyl tert-butyl ether	0.02	0.0454 (0.025)	0.0759 (0.05)	0.104 (0.02)	NA	NA	NA	ND (0.005)	ND (0.025)	ND (0.01)	ND (0.025)	ND (0.01)
Toluene	1	0.192 (0.025)	0.207 (0.05)	0.218 (0.02)	NA	NA	NA	0.136 (0.005)	2.63 (0.025)	1.9 (0.1)	2.81 (0.025)	1.08 (0.01)
1,2,4-Trimethylbenzene	0.53	0.424 (0.05)	0.437 (0.1)	0.448 (0.04)	NA	NA	NA	0.0628 (0.01)	0.124 (0.05)	0.122 (0.02)	0.0998 (0.05)	0.21 (0.02)
1,3,5-Trimethylbenzene	0.53	0.169 (0.05)	0.162 (0.1)	0.162 (0.04)	NA	NA	NA	0.0304 (0.01)	0.0555 (0.05)	0.0534 (0.02)	0.0408 J (0.05)	0.0744 (0.02)
Xylenes (total)	10	1.95 (0.025)	1.92 (0.05)	2.02 (0.02)	NA	NA	NA	0.378 (0.005)	1.14 (0.025)	1.09 (0.01)	1.14 (0.025)	0.924 (0.01)
Semivolatile Organic Compounds												
Anthracene	0.066	0.000635 (0.000074)	ND,H (0.000077)	0.000392 B (0.00008)	NA	NA	NA	ND (0.00042)	0.000184 (0.000081)	0.00023 (0.00017)	0.00036 (0.00008)	0.00129 (0.00008)
Benzo(a)anthracene	0.0039	ND (0.000037)	ND,H (0.000038)	0.0000339 J (0.00004)	NA	NA	NA	ND (0.00021)	ND (0.000041)	ND (0.000083)	ND (0.00004)	0.00004 (0.00004)
Benzo(a)pyrene	0.0002	ND (0.000037)	ND,H (0.000038)	ND (0.00004)	NA	NA	NA	ND (0.00021)	ND (0.000041)	ND (0.000083)	ND (0.00004)	0.0000299 J (0.00004)
Benzo(b)fluoranthene	0.0012	ND (0.000037)	ND,H (0.000038)	0.0000301 J (0.00004)	NA	NA	NA	ND (0.00021)	ND (0.000041)	ND (0.000083)	ND (0.00004)	0.0000452 (0.00004)
Benzo(g,h,i)perylene	0.00026	ND (0.000074)	ND,H (0.000077)	ND (0.00008)	NA	NA	NA	ND (0.00042)	ND (0.000081)	ND (0.00017)	ND (0.00008)	ND (0.00008)
Chrysene	0.0019	ND (0.000074)	ND,H (0.000077)	0.0000464 J (0.00008)	NA	NA	NA	ND (0.00042)	ND (0.000081)	ND (0.00017)	ND (0.00008)	0.0000874 (0.00008)
Fluorene	1.9	0.00193 (0.000074)	0.0026 H (0.000077)	0.00261 B (0.00008)	NA	NA	NA	0.00151 (0.00042)	0.0006 (0.000081)	0.000898 (0.00017)	0.00115 (0.00008)	0.00179 (0.00008)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	ND (0.00005)	NA	NA	NA	NA	NA
Naphthalene	0.1	0.113 (0.003)	0.0337 H (0.00077)	0.0655 (0.0015)	NA	NA	NA	ND (0.00042)	0.000746 (0.000081)	0.00549 (0.00017)	0.0154 (0.0004)	0.00748 B (0.0004)
Phenanthrene	1.1	0.0103 (0.0015)	0.00817 B,H (0.00077)	0.00278 B (0.00008)	NA	NA	NA	0.000305 J (0.00042)	0.000247 (0.000081)	0.000914 (0.00017)	0.00229 (0.00008)	0.00969 B (0.0004)
Pyrene	0.13	0.000288 (0.000074)	0.000363 H (0.000077)	0.000274 (0.00008)	NA	NA	NA	0.000493 (0.00042)	0.000113 (0.000081)	0.000144 J (0.00017)	0.000109 (0.00008)	0.000732 (0.00008)
Metals												
Lead	0.005	NA	NA	NA	NA	0.0091 (0.003)	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	ND (0.003)	NA	ND (0.002)	NA	NA	NA	NA	NA

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
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XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-705	RW-705	RW-705	RW-705	RW-705	RW-705	RW-705	RW-706	RW-706	RW-706	RW-706
Field Sample ID	Groundwater MSC	RW-705_101910	RW-705-121312	RW-705_040314	RW-705_20150318	AOI4_RW-705_021616	RW-705-20160816-WG	RW-705-20161012-WG	RW-706_101910	RW-706-121312	RW-706_040314	RW-706_20150318
Sample Date	Used Aquifer	10/19/2010	12/13/2012	4/4/2014	3/18/2015	2/16/2016	8/16/2016	10/12/2016	10/19/2010	12/13/2012	4/4/2014	3/18/2015
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	NA	0.012 (0.0025)	0.076 (0.001)	0.0385 (0.001)	0.0456 (0.001)	0.00599 (0.001)	5.1 (0.2)	3.54 (0.1)	6.02 (0.025)	8.3 (0.2)
Cumene	3.5	NA	NA	NA	NA	NA	0.00553 (0.001)	0.00125 (0.001)	NA	NA	NA	NA
1,2-Dibromoethane	0.00005	NA	NA	NA	NA	NA	ND (0.00001)	ND (0.00001)	NA	NA	NA	NA
1,2-Dichloroethane	0.005	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	NA	NA	NA	NA
Ethyl Benzene	0.7	NA	NA	0.0722 (0.0025)	0.075 (0.001)	ND (0.001)	0.0652 (0.001)	0.0078 (0.001)	3 (0.02)	0.728 (0.1)	0.872 (0.025)	0.95 (0.02)
Methyl tert-butyl ether	0.02	ND (0.02)	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.02)	NA	NA	NA
Toluene	1	NA	NA	0.0624 (0.005)	0.1 (0.001)	0.0193 (0.001)	0.0392 (0.005)	ND (0.005)	14 (0.2)	5.17 (0.1)	4.8 (0.05)	5.8 (0.2)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	0.116 (0.001)	0.0181 (0.001)	NA	NA	NA	NA
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	0.0312 (0.001)	0.00524 (0.001)	NA	NA	NA	NA
Xylenes (total)	10	NA	NA	0.256 (0.005)	0.42 (0.001)	ND (0.003)	0.25 (0.003)	0.0187 (0.003)	10 (0.2)	3.95 (0.1)	4.62 (0.05)	5.2 (0.02)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	NA	NA	0.0000929 (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(a)anthracene	0.0039	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(a)pyrene	0.0002	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(b)fluoranthene	0.0012	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Chrysene	0.0019	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Fluorene	1.9	NA	NA	NA	NA	NA	0.000618 (0.00005)	0.000102 (0.00005)	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Naphthalene	0.1	NA	NA	NA	NA	NA	0.0217 (0.00025)	0.00109 (0.00025)	NA	NA	NA	NA
Phenanthrene	1.1	NA	NA	NA	NA	NA	0.000521 (0.00005)	ND (0.00005)	NA	NA	NA	NA
Pyrene	0.13	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	ND (0.003)	NA	NA	NA	ND (0.002)	ND (0.002)	NA	ND (0.003)	NA	NA

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

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J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-706	RW-707	RW-707	RW-707	RW-707	RW-707	RW-707	RW-708	RW-708	RW-708	RW-708
Field Sample ID	Groundwater MSC	AOI4_RW-706_021616	RW-707_102110	RW-707_12142012	RW-707_06_14_2013	RW-707_040314	RW-707_20150318	AOI4_RW-707_021616	RW-708-20161013-WG	RW-708_20190620	RW-708_20191028	RW-708_20210503
Sample Date	Used Aquifer	2/16/2016	10/21/2010	12/14/2012	6/14/2013	4/4/2014	3/18/2015	2/16/2016	10/13/2016	6/20/2019	10/28/2019	5/3/2021
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	5.73 (0.05)	NA	3.98 (0.05)	0.605 (0.005)	0.0396 (0.0025)	0.021 (0.001)	0.318 (0.001)	NA	0.51 (0.005)	0.0006 J (0.001)	0.099 (0.001)
Cumene	3.5	NA	NA	NA	0.0306 (0.01)	NA	NA	NA	NA	0.012 (0.005)	0.0004 J (0.005)	0.0022 J (0.005)
1,2-Dibromoethane	0.00005	NA	NA	NA	ND (0.00002)	NA	NA	NA	NA	ND (0.000029)	ND,XQ (0.000028)	ND (0.000029)
1,2-Dichloroethane	0.005	NA	NA	NA	ND (0.005)	NA	NA	NA	NA	ND (0.005)	ND (0.005)	ND (0.001)
Ethyl Benzene	0.7	0.727 (0.05)	NA	0.821 (0.05)	0.293 (0.005)	0.0349 (0.0025)	0.012 (0.001)	0.149 (0.001)	NA	0.26 (0.005)	0.008 (0.001)	0.05 (0.001)
Methyl tert-butyl ether	0.02	NA	ND (0.02)	NA	0.0266 (0.005)	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)
Toluene	1	3.89 (0.05)	NA	3.95 (0.05)	0.336 (0.005)	0.0455 (0.005)	0.011 (0.001)	0.0919 (0.001)	NA	0.09 (0.001)	0.002 (0.001)	0.0094 (0.001)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	0.59 (0.01)	NA	NA	NA	NA	0.56 (0.025)	0.024 (0.005)	0.16 (0.005)
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	0.221 (0.01)	NA	NA	NA	NA	0.23 (0.025)	0.02 (0.005)	0.092 (0.005)
Xylenes (total)	10	3.91 (0.15)	NA	4.47 (0.05)	1.32 (0.005)	0.163 (0.005)	0.053 (0.001)	0.613 (0.003)	NA	1.7 (0.025)	0.074 (0.003)	0.47 (0.006)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	0.000251 (0.0001)	NA	NA	NA	NA	0.001 (0.0005)	ND (0.0005)	ND (0.00051)
Benzo(a)anthracene	0.0039	NA	NA	NA	ND (0.0001)	NA	NA	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)
Benzo(a)pyrene	0.0002	NA	NA	NA	ND (0.0001)	NA	NA	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)
Benzo(b)fluoranthene	0.0012	NA	NA	NA	ND (0.0001)	NA	NA	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	ND (0.0001)	NA	NA	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)
Chrysene	0.0019	NA	NA	NA	ND (0.0001)	NA	NA	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)
Fluorene	1.9	NA	NA	NA	0.00107 (0.0001)	NA	NA	NA	NA	0.005 (0.0005)	ND (0.0005)	0.00097 (0.00051)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	NA	NA	NA
Naphthalene	0.1	NA	NA	NA	0.0803 (0.0001)	NA	NA	NA	NA	0.091 (0.0005)	ND (0.0005)	ND (0.00051)
Phenanthrene	1.1	NA	NA	NA	0.00174 (0.0001)	NA	NA	NA	NA	0.008 (0.0005)	ND (0.0005)	0.00048 J (0.00051)
Pyrene	0.13	NA	NA	NA	ND (0.0001)	NA	NA	NA	NA	0.0008 (0.0005)	0.0003 J (0.0005)	0.00019 J (0.00051)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	ND (0.003)	ND (0.003)	NA	NA	NA	NA	ND (0.003)	0.00023 J (0.0005)	0.00024 J (0.00052)

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-708	RW-708	RW-709	RW-709	RW-709	RW-709	RW-709	RW-710	RW-710	RW-710	RW-710
Field Sample ID	Groundwater MSC	RW-708_20220405	RW-708_20230427	RW-709_102110	RW-709-121312	RW-709_040314	RW-709_20150318	AOI4_RW-709_021616	RW-710_102110	RW-710_06_14_2013	RW-710_040314	RW-710_20150318
Sample Date	Used Aquifer	4/5/2022	4/27/2023	10/21/2010	12/13/2012	4/4/2014	3/18/2015	2/16/2016	10/21/2010	6/14/2013	4/4/2014	3/18/2015
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.039 (0.0005)	0.0026 (0.0005)	0.69 (0.01)	0.223 (0.005)	0.0131 (0.0005)	0.001 (0.001)	0.0049 (0.001)	6.2 (0.2)	1.44 (0.01)	0.0046 (0.0005)	ND (0.001)
Cumene	3.5	0.0017 (0.001)	ND (0.001)	NA	NA	NA	NA	NA	NA	0.0236 (0.02)	NA	NA
1,2-Dibromoethane	0.00005	ND (0.00002)	ND (0.000021)	NA	NA	NA	NA	NA	NA	ND (0.00002)	NA	NA
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	NA	NA	NA	NA	NA	NA	ND (0.01)	NA	NA
Ethyl Benzene	0.7	0.0332 (0.001)	ND (0.001)	0.5 (0.01)	0.105 (0.005)	0.0332 (0.0005)	0.004 (0.001)	ND (0.001)	1.4 (0.02)	0.768 (0.01)	0.0098 (0.0005)	ND (0.001)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	ND (0.01)	NA	NA	NA	NA	ND (0.02)	ND (0.01)	NA	NA
Toluene	1	0.0032 (0.001)	ND (0.001)	4.2 (0.1)	0.291 (0.005)	0.147 (0.001)	0.005 (0.001)	0.0043 (0.001)	13 (0.2)	0.908 (0.01)	0.0044 (0.001)	ND (0.001)
1,2,4-Trimethylbenzene	0.53	0.102 (0.002)	0.0023 (0.002)	NA	NA	NA	NA	NA	NA	1.37 (0.02)	NA	NA
1,3,5-Trimethylbenzene	0.53	0.0549 (0.002)	0.003 (0.002)	NA	NA	NA	NA	NA	NA	0.47 (0.02)	NA	NA
Xylenes (total)	10	0.15 (0.001)	0.00085 J (0.001)	5.3 (0.01)	0.83 (0.005)	0.229 (0.001)	0.021 (0.001)	ND (0.003)	9.1 (0.02)	4.58 (0.01)	0.0494 (0.001)	ND (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.000083)	ND (0.000083)	NA	NA	NA	NA	NA	NA	ND (0.0001)	NA	NA
Benzo(a)anthracene	0.0039	0.000037 J (0.000042)	0.0000369 J (0.000042)	NA	NA	NA	NA	NA	NA	ND (0.0001)	NA	NA
Benzo(a)pyrene	0.0002	0.0000282 J (0.000042)	0.0000275 J (0.000042)	NA	NA	NA	NA	NA	NA	ND (0.0001)	NA	NA
Benzo(b)fluoranthene	0.0012	0.0000471 (0.000042)	0.000055 (0.000042)	NA	NA	NA	NA	NA	NA	ND (0.0001)	NA	NA
Benzo(g,h,i)perylene	0.00026	ND (0.000083)	0.0000444 J (0.000083)	NA	NA	NA	NA	NA	NA	ND (0.0001)	NA	NA
Chrysene	0.0019	0.0000555 J (0.000083)	0.000043 J (0.000083)	NA	NA	NA	NA	NA	NA	ND (0.0001)	NA	NA
Fluorene	1.9	0.000328 B (0.000083)	ND (0.000083)	NA	NA	NA	NA	NA	NA	0.000337 (0.0001)	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.00196 B (0.000083)	ND (0.000083)	NA	NA	NA	NA	NA	NA	0.196 (0.004)	NA	NA
Phenanthrene	1.1	0.000386 B (0.000083)	0.0000555 J (0.000083)	NA	NA	NA	NA	NA	NA	0.000476 (0.0001)	NA	NA
Pyrene	0.13	0.000259 (0.000083)	0.0000666 J (0.000083)	NA	NA	NA	NA	NA	NA	ND (0.0001)	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	0.0015 (0.001)	0.0026 (0.001)	NA	ND (0.003)	NA	NA	NA	NA	ND (0.003)	NA	NA

Notes:

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Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-710	RW-711	RW-711	RW-711	RW-711	RW-711	RW-711	RW-711	RW-712	RW-712	RW-712
Field Sample ID	Groundwater MSC	AOI4_RW-710_021816	RW-711_102110	RW-711_12142012	RW-711_040114	RW-711_20150318	AOI4_RW-711_021816	RW-711-20160816-WG	RW-711-20161012-WG	RW-712_102110	RW-712-121312	RW-712_040114
Sample Date	Used Aquifer	2/18/2016	10/21/2010	12/14/2012	4/1/2014	3/18/2015	2/18/2016	8/16/2016	10/12/2016	10/21/2010	12/13/2012	4/1/2014
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.0294 (0.001)	NA	NA	0.0125 (0.0005)	0.4 (0.01)	0.312 (0.001)	0.378 (0.01)	0.0136 (0.001)	3.5 (0.02)	5.54 (0.1)	0.537 (0.005)
Cumene	3.5	NA	NA	NA	NA	NA	NA	0.00646 (0.001)	0.00244 (0.001)	NA	NA	NA
1,2-Dibromoethane	0.00005	NA	NA	NA	NA	NA	NA	ND (0.00001)	ND (0.00001)	NA	NA	NA
1,2-Dichloroethane	0.005	NA	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	NA	NA	NA
Ethyl Benzene	0.7	0.00067 J (0.001)	NA	NA	0.0328 (0.0005)	0.59 (0.01)	0.293 (0.001)	0.171 (0.001)	0.0367 (0.001)	2.3 (0.02)	1.43 (0.1)	0.462 (0.005)
Methyl tert-butyl ether	0.02	NA	ND (0.02)	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.02)	NA	NA
Toluene	1	0.0172 (0.001)	NA	NA	0.0502 (0.001)	0.055 (0.001)	0.0542 (0.001)	0.0539 (0.005)	0.0104 (0.005)	6.3 (0.2)	4.81 (0.1)	0.78 (0.01)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	NA	0.271 (0.01)	0.0939 (0.001)	NA	NA	NA
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	NA	0.053 (0.001)	0.0226 (0.001)	NA	NA	NA
Xylenes (total)	10	0.0019 J (0.003)	NA	NA	0.175 (0.001)	0.79 (0.01)	0.839 (0.003)	0.634 (0.03)	0.145 (0.003)	9.3 (0.2)	7.68 (0.1)	2.53 (0.01)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA
Benzo(a)anthracene	0.0039	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA
Benzo(a)pyrene	0.0002	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA
Benzo(b)fluoranthene	0.0012	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA
Chrysene	0.0019	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA
Fluorene	1.9	NA	NA	NA	NA	NA	NA	0.000142 (0.00005)	ND (0.00005)	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA
Naphthalene	0.1	NA	NA	NA	NA	NA	NA	0.0542 (0.00025)	0.00514 (0.00025)	NA	NA	NA
Phenanthrene	1.1	NA	NA	NA	NA	NA	NA	0.0000798 (0.00005)	ND (0.00005)	NA	NA	NA
Pyrene	0.13	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	ND (0.003)	NA	NA	NA	ND (0.002)	ND (0.002)	NA	ND (0.003)	NA

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:
ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-712	RW-712	RW-713	RW-713	RW-713	RW-713	RW-713	RW-714	RW-714	RW-714	RW-714
Field Sample ID	Groundwater MSC	RW-712_20150318	AOI4_RW-712_021816	RW-713_102110	RW-713-121312	RW-713_040114	RW-713_20150318	AOI4_RW-713_021816	RW-714_102110	RW-714-121312	RW-714_040114	RW-714_20150318
Sample Date	Used Aquifer	3/18/2015	2/18/2016	10/21/2010	12/13/2012	4/1/2014	3/18/2015	2/18/2016	10/21/2010	12/13/2012	4/1/2014	3/18/2015
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.81 (0.005)	1.45 (0.01)	1.7 (0.02)	2.06 (0.1)	0.755 (0.013)	0.83 (0.005)	1.58 (0.01)	0.42 (0.02)	0.409 (0.1)	0.804 (0.01)	0.18 (0.01)
Cumene	3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	0.00005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	0.7	0.47 (0.005)	0.957 (0.01)	1.4 (0.02)	1.27 (0.1)	0.816 (0.013)	0.8 (0.005)	0.91 (0.01)	1.7 (0.02)	0.424 (0.1)	0.514 (0.01)	0.76 (0.01)
Methyl tert-butyl ether	0.02	NA	NA	ND (0.02)	NA	NA	NA	NA	ND (0.02)	NA	NA	NA
Toluene	1	0.86 (0.005)	1.13 (0.01)	10 (0.2)	4.56 (0.1)	4.2 (0.025)	2.2 (0.05)	1.02 (0.01)	5.6 (0.2)	0.909 (0.1)	1.14 (0.02)	0.52 (0.01)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	10	1.9 (0.05)	3.8 (0.03)	7.8 (0.02)	6.92 (0.1)	5.08 (0.025)	4.7 (0.05)	5.08 (0.03)	7.6 (0.2)	6.03 (0.1)	3.3 (0.02)	4.9 (0.01)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	0.0039	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	0.0012	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	0.0019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	1.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	1.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	0.0019 J (0.003)	NA	NA	NA	NA	ND (0.003)	NA	NA

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

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OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-714	RW-715	RW-715	RW-715	RW-715	RW-715	RW-715	RW-715	RW-716	RW-716	RW-716
Field Sample ID	Groundwater MSC	AOI4_RW-714_021916	RW-715-20160816-WG	RW-715-20161012-WG	RW-715_20180626	RW-715_20190620	RW-715_20191028	RW-715_20210504	RW-715_20220404	RW-716_102110	RW-716-121312	RW-716_040314
Sample Date	Used Aquifer	2/19/2016	8/16/2016	10/12/2016	6/26/2018	6/20/2019	10/28/2019	5/4/2021	4/4/2022	10/21/2010	12/13/2012	4/4/2014
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.759 (0.01)	NA	NA	0.0478 (0.001)	0.0008 J (0.001)	0.0006 J (0.001)	0.006 (0.001)	0.0186 (0.0005)	0.019 (0.001)	0.0124 (0.001)	0.0026 (0.0005)
Cumene	3.5	NA	NA	NA	0.00181 (0.001)	ND (0.005)	ND (0.005)	0.0015 J (0.005)	0.0027 (0.001)	NA	NA	NA
1,2-Dibromoethane	0.00005	NA	NA	NA	ND (0.00001)	ND (0.000028)	ND,XQ (0.000028)	ND (0.000029)	ND (0.00002)	NA	NA	NA
1,2-Dichloroethane	0.005	NA	NA	NA	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	NA	NA	NA
Ethyl Benzene	0.7	0.546 (0.01)	NA	NA	0.00223 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.00098 J (0.001)	0.004 (0.001)	0.0026 (0.001)	0.001 (0.0005)
Methyl tert-butyl ether	0.02	NA	NA	NA	0.00158 (0.001)	0.001 (0.001)	0.0009 J (0.001)	0.00035 J (0.001)	ND (0.001)	ND (0.001)	NA	NA
Toluene	1	0.569 (0.01)	NA	NA	0.00306 (0.001)	0.0003 J (0.001)	ND (0.001)	0.0024 (0.001)	0.0053 (0.001)	0.013 (0.001)	0.0033 (0.001)	0.00096 J (0.001)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	0.00153 (0.001)	ND (0.005)	ND (0.005)	0.0027 J (0.005)	ND (0.002)	NA	NA	NA
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	ND (0.001)	ND (0.005)	ND (0.005)	0.00032 J (0.005)	ND (0.002)	NA	NA	NA
Xylenes (total)	10	3.14 (0.03)	NA	NA	0.00408 (0.003)	0.0006 J (0.005)	ND (0.003)	0.0039 J (0.006)	0.009 (0.001)	0.056 (0.001)	0.0013 (0.001)	ND (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000579 JB (0.000069)	NA	NA	NA
Benzo(a)anthracene	0.0039	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000373 B (0.000034)	NA	NA	NA
Benzo(a)pyrene	0.0002	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000464 (0.000034)	NA	NA	NA
Benzo(b)fluoranthene	0.0012	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000358 B (0.000034)	NA	NA	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000484 J (0.000069)	NA	NA	NA
Chrysene	0.0019	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000358 J (0.000069)	NA	NA	NA
Fluorene	1.9	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000896 B (0.000069)	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	NA	NA	NA	0.00145 (0.00025)	ND (0.0005)	ND (0.0005)	0.00024 J (0.0005)	0.000315 B (0.000069)	NA	NA	NA
Phenanthrene	1.1	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000961 B (0.000069)	NA	NA	NA
Pyrene	0.13	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000465 J (0.000069)	NA	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	ND (0.002)	ND (0.003)	ND (0.0005)	ND (0.00052)	ND (0.001)	NA	ND (0.003)	NA

Notes:
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XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	RW-716	RW-716	RW-717	RW-717	RW-717	RW-717	RW-717	RW-717	RW-717	S-10	S-10
Field Sample ID	Groundwater MSC	RW-716_20150318	AOI4_RW-716_021916	RW-717_102110	RW-717-121312	RW-717_040314	RW-717_20150318	AOI4_RW-717_021916	RW-717-20160817-WG	RW-717-20161012-WG	S-10_112509	S-10_072110
Sample Date	Used Aquifer	3/18/2015	2/19/2016	10/21/2010	12/13/2012	4/4/2014	3/18/2015	2/19/2016	8/17/2016	10/12/2016	11/25/2009	7/21/2010
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.006 (0.001)	0.043 (0.001)	NA	NA	0.0223 (0.0005)	0.036 (0.001)	0.0307 (0.001)	ND (0.001)	0.0012 (0.001)	0.026 (0.001)	ND (0.001)
Cumene	3.5	NA	NA	NA	NA	NA	NA	NA	ND (0.001)	0.00162 (0.001)	ND (0.002)	0.008 (0.002)
1,2-Dibromoethane	0.00005	NA	NA	NA	NA	NA	NA	NA	ND (0.00001)	ND (0.00001)	ND (0.00003)	ND (0.000029)
1,2-Dichloroethane	0.005	NA	NA	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.0007 J (0.001)	0.0164 (0.001)	NA	NA	0.0114 (0.0005)	0.016 (0.001)	0.0132 (0.001)	ND (0.001)	0.00112 (0.001)	ND (0.001)	ND (0.001)
Methyl tert-butyl ether	0.02	NA	NA	ND (0.001)	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	0.005 (0.001)
Toluene	1	0.0006 J (0.001)	0.0398 (0.001)	NA	NA	0.0075 (0.001)	0.013 (0.001)	0.0311 (0.001)	ND (0.005)	ND (0.005)	0.001 (0.001)	ND (0.001)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.002)
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.002)
Xylenes (total)	10	0.0007 J (0.001)	0.0859 (0.003)	NA	NA	0.0042 (0.001)	0.062 (0.001)	0.0663 (0.003)	ND (0.003)	0.00402 (0.003)	0.002 (0.001)	ND (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA
Benzo(a)anthracene	0.0039	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA
Benzo(a)pyrene	0.0002	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA
Benzo(b)fluoranthene	0.0012	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA
Chrysene	0.0019	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	ND (0.005)	ND (0.005)
Fluorene	1.9	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	ND (0.005)	ND (0.005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA
Naphthalene	0.1	NA	NA	NA	NA	NA	NA	NA	ND (0.00025)	0.000783 (0.00025)	ND (0.005)	ND (0.005)
Phenanthrene	1.1	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	ND (0.005)	ND (0.005)
Pyrene	0.13	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	ND (0.005)	ND (0.005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	ND (0.003)	NA	NA	NA	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.000001)

Notes:

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-10	S-10	S-10	S-102	S-102	S-102	S-102	S-103	S-104	S-104	S-11
Field Sample ID	Groundwater MSC	AOI3-S-10_082213	AOI3_S-10_061215	AOI3_S-10_123015	S-102	S102-050605	S-102_06_12_2013	S-102-20161012-WG	S-103-20161012-WG	S-104-20160819-WG	S-104-20161011-WG	S-11_112509
Sample Date	Used Aquifer	8/22/2013	6/12/2015	12/30/2015	10/21/2004	5/6/2005	6/12/2013	10/12/2016	10/12/2016	8/19/2016	10/11/2016	11/25/2009
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	0.00042 J (0.001)	ND (0.0005)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND,SL (0.01)	ND,SL (0.005)	0.0188 SL (0.01)	0.011 (0.001)
Cumene	3.5	0.0056 (0.002)	0.0081 (0.001)	0.0048 (0.001)	0.0069	ND (0.005)	0.00084 J (0.002)	ND (0.001)	0.0235 SL (0.01)	0.0559 SL (0.005)	0.0215 SL (0.01)	ND (0.002)
1,2-Dibromoethane	0.00005	ND (0.00002)	0.00008 (0.00004)	ND (0.000019)	ND (0.00002)	ND (0.000028)	ND (0.00002)	ND (0.00001)	ND,SL (0.00001)	ND,SL (0.00001)	ND,SL (0.00001)	ND (0.000029)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND,SL (0.01)	ND,SL (0.005)	ND,SL (0.01)	ND (0.001)
Ethyl Benzene	0.7	ND (0.001)	0.00034 J (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND,SL (0.01)	ND,SL (0.005)	0.018 SL (0.01)	ND (0.001)
Methyl tert-butyl ether	0.02	0.0039 (0.001)	0.0052 (0.001)	0.0032 (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND,SL (0.01)	ND,SL (0.005)	ND,SL (0.01)	0.003 (0.001)
Toluene	1	ND (0.001)	0.0011 (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	ND,SL (0.05)	ND,SL (0.025)	0.0579 SL (0.05)	ND (0.001)
1,2,4-Trimethylbenzene	0.53	0.00095 J (0.002)	0.001 (0.001)	ND (0.002)	NA	NA	ND (0.002)	ND (0.001)	ND,SL (0.01)	ND,SL (0.005)	0.124 SL (0.01)	ND (0.002)
1,3,5-Trimethylbenzene	0.53	ND (0.002)	0.00037 J (0.001)	ND (0.002)	NA	NA	ND (0.002)	ND (0.001)	ND,SL (0.01)	ND,SL (0.005)	0.0439 SL (0.01)	ND (0.002)
Xylenes (total)	10	ND (0.001)	0.002 J (0.003)	ND (0.001)	ND (0.01)	ND (0.005)	ND (0.001)	ND (0.003)	ND,SL (0.03)	ND,SL (0.015)	0.205 SL (0.03)	ND (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	0.000591 (0.0001)	0.00039 (0.0001)	0.000344 (0.0001)	NA	NA	0.000292 (0.0001)	0.000751 (0.00005)	ND,SL (0.0005)	ND,SL (0.001)	ND,SL (0.001)	NA
Benzo(a)anthracene	0.0039	ND (0.0001)	ND (0.0001)	ND (0.00005)	NA	NA	0.000212 (0.0001)	0.000469 (0.00005)	ND,SL (0.0005)	0.00113 B,SL (0.001)	ND,SL (0.001)	NA
Benzo(a)pyrene	0.0002	ND (0.0001)	ND (0.0001)	ND (0.00005)	NA	NA	ND (0.0001)	0.000163 (0.00005)	ND,SL (0.0005)	ND,SL (0.001)	ND,SL (0.001)	NA
Benzo(b)fluoranthene	0.0012	0.000148 (0.0001)	ND (0.0001)	ND (0.0001)	NA	NA	ND (0.0001)	0.000121 (0.00005)	ND,SL (0.0005)	ND,SL (0.001)	ND,SL (0.001)	NA
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	NA	ND (0.0001)	0.0000903 (0.00005)	ND,SL (0.0005)	ND,SL (0.001)	ND,SL (0.001)	NA
Chrysene	0.0019	0.000148 (0.0001)	ND (0.0001)	ND (0.0001)	0.0015	ND (0.01)	0.000346 (0.0001)	0.000511 (0.00005)	ND,SL (0.0005)	ND,SL (0.001)	ND,SL (0.001)	ND (0.005)
Fluorene	1.9	0.00084 (0.0001)	0.0011 (0.0001)	0.000459 (0.0001)	ND (0.01)	ND (0.01)	0.000832 (0.0001)	0.00134 (0.00005)	0.00518 SL (0.0005)	0.0236 SL (0.001)	0.0132 SL (0.001)	ND (0.005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND,SL (0.0005)	ND,SL (0.001)	ND,SL (0.001)	NA
Naphthalene	0.1	ND (0.0001)	0.0016 (0.0001)	ND (0.0001)	ND (0.005)	ND (0.01)	ND (0.0001)	0.00083 (0.00025)	0.00329 B,SL (0.0025)	ND,SL (0.005)	0.0355 SL (0.005)	ND (0.005)
Phenanthrene	1.1	0.000918 (0.0001)	0.00062 (0.0001)	0.000372 (0.0001)	ND (0.01)	ND (0.01)	0.000634 (0.0001)	0.00341 (0.00005)	0.0101 SL (0.0005)	0.0172 SL (0.001)	0.019 SL (0.001)	ND (0.005)
Pyrene	0.13	0.000404 (0.0001)	0.00011 (0.0001)	ND (0.0001)	ND (0.01)	ND (0.01)	0.000341 (0.0001)	0.00115 (0.00005)	0.00228 SL (0.0005)	0.0145 SL (0.001)	0.00719 SL (0.001)	ND (0.005)
Metals												
Lead	0.005	NA	NA	NA	NA	ND (0.001)	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.003)	ND (0.005)	ND (0.003)	ND (0.005)	NA	ND (0.003)	ND (0.002)	ND,SL (0.002)	ND,SL (0.002)	ND,SL (0.002)	ND (0.001)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:
ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-11	S-11	S-11	S-11	S-118	S-118	S-118	S-118	S-118	S-118	S-119
Field Sample ID	Groundwater MSC	S-11_072110	AOI3_S-11_082313	AOI3_S-11_061215	AOI3_S-11_123015	S118-042205	S-118_091609	S-118_120909	S-118_072312	S-118~JB67921	S-118-20141208	S-119
Sample Date	Used Aquifer	7/21/2010	8/23/2013	6/12/2015	12/30/2015	4/22/2005	9/16/2009	12/9/2009	7/23/2012	5/27/2014	12/8/2014	10/20/2004
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	ND (0.001)	0.00067 J (0.001)	ND (0.0005)	NA	0.084 (0.001)	0.44 (0.01)	0.031 (0.005)	0.0027 (0.0005)	1.09 (0.05)	ND (0.001)
Cumene	3.5	ND (0.002)	0.0012 J (0.002)	0.0042 (0.001)	0.0023 (0.001)	NA	0.013 (0.002)	0.014 (0.002)	0.011 (0.01)	0.0049 (0.001)	0.0064 (0.005)	ND (0.005)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.00002)	0.00008 (0.00004)	ND (0.000019)	NA	ND (0.000029)	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.00002)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)
Ethyl Benzene	0.7	ND (0.001)	ND (0.001)	0.00061 J (0.001)	ND (0.001)	NA	0.074 (0.001)	0.099 (0.001)	0.003 J (0.005)	0.0012 (0.001)	0.0507 (0.005)	ND (0.005)
Methyl tert-butyl ether	0.02	0.002 (0.001)	0.0029 (0.001)	0.0063 (0.001)	0.0028 (0.001)	NA	0.001 (0.001)	0.004 (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)
Toluene	1	ND (0.001)	ND (0.001)	0.0017 (0.001)	ND (0.001)	NA	0.005 (0.001)	0.033 (0.001)	ND (0.005)	ND (0.001)	0.0876 (0.005)	ND (0.005)
1,2,4-Trimethylbenzene	0.53	ND (0.002)	ND (0.002)	0.0012 (0.001)	0.00024 J (0.002)	NA	NA	NA	ND (0.01)	ND (0.002)	0.0116 (0.01)	NA
1,3,5-Trimethylbenzene	0.53	ND (0.002)	ND (0.002)	0.00034 J (0.001)	ND (0.002)	NA	NA	NA	ND (0.01)	ND (0.002)	0.0036 J (0.01)	NA
Xylenes (total)	10	ND (0.001)	0.00038 J (0.001)	0.0043 (0.003)	0.0011 (0.001)	NA	0.029 (0.001)	0.2 (0.001)	ND (0.005)	0.00022 J (0.001)	0.116 (0.005)	ND (0.01)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	0.000165 (0.0001)	0.00018 (0.0001)	0.000199 (0.0001)	NA	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA
Benzo(a)anthracene	0.0039	NA	ND (0.0001)	0.000029 J (0.0001)	0.0000782 (0.00005)	NA	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA
Benzo(a)pyrene	0.0002	NA	ND (0.0001)	0.000017 J (0.0001)	0.000131 (0.00005)	NA	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA
Benzo(b)fluoranthene	0.0012	NA	ND (0.0001)	0.00009 J (0.0001)	0.000332 (0.0001)	NA	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA
Benzo(g,h,i)perylene	0.00026	NA	ND (0.0001)	0.000025 J (0.0001)	0.000122 (0.0001)	NA	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA
Chrysene	0.0019	ND (0.005)	ND (0.0001)	0.000052 J (0.0001)	0.00028 (0.0001)	NA	ND (0.005)	ND (0.005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.00014)
Fluorene	1.9	ND (0.005)	0.000657 (0.0001)	0.0015 (0.0001)	0.000732 (0.0001)	NA	ND (0.005)	ND (0.005)	0.0004 J (0.0005)	ND (0.0001)	0.00016 (0.0001)	ND (0.01)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	ND (0.005)	ND (0.0001)	0.0009 (0.0001)	ND (0.0001)	NA	0.011 (0.005)	0.016 (0.005)	0.0004 J (0.0005)	ND (0.0001)	0.00426 (0.0001)	ND (0.005)
Phenanthrene	1.1	ND (0.005)	ND (0.0001)	0.000093 J (0.0001)	0.000105 (0.0001)	NA	ND (0.005)	ND (0.005)	0.0003 J (0.0005)	ND (0.0001)	0.000126 (0.0001)	ND (0.01)
Pyrene	0.13	ND (0.005)	ND (0.0001)	0.000089 J (0.0001)	0.000309 (0.0001)	NA	ND (0.005)	ND (0.005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.01)
Metals												
Lead	0.005	NA	NA	NA	NA	ND (0.001)	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	0.0012 (0.000001)	0.0029 J (0.003)	ND (0.005)	ND (0.003)	NA	ND (0.000001)	ND (0.000001)	0.00053 J (0.001)	ND (0.003)	0.0017 J (0.003)	ND (0.005)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:
ND - Not Detected
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H - Threshold Limit Value
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J+ - Indicates an estimated value that is biased high
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-119	S-119	S-119	S-119	S-12	S-12	S-12	S-12	S-12	S-120	S-120
Field Sample ID	Groundwater MSC	S119-050305	S-119_06_12_2013	S-119-20160812-WG	S-119-20161010-WG	S-12_113009	S-12_072110	AOI3_S-12_082313	AOI3_S-12_061215	AOI3_S-12_122915	S120-050305	S-120_20150518
Sample Date	Used Aquifer	5/3/2005	6/12/2013	8/12/2016	10/10/2016	11/30/2009	7/21/2010	8/23/2013	6/12/2015	12/29/2015	5/3/2005	5/18/2015
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.005 (0.005)	ND (0.001)	ND (0.001)	0.00283 (0.001)	0.012 (0.001)	ND (0.001)	ND (0.001)	0.00035 J (0.001)	ND (0.0005)	NA	ND (0.001)
Cumene	3.5	ND (0.005)	ND (0.002)	ND (0.001)	ND (0.001)	0.003 (0.002)	0.004 (0.002)	0.0062 (0.002)	0.0068 (0.001)	0.0054 (0.001)	NA	ND (0.002)
1,2-Dibromoethane	0.00005	ND (0.000028)	ND (0.00002)	ND (0.00001)	ND (0.00001)	ND (0.000029)	ND (0.000029)	ND (0.00002)	0.00008 (0.00004)	ND (0.000018)	NA	ND (0.000029)
1,2-Dichloroethane	0.005	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	ND (0.001)
Ethyl Benzene	0.7	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.00039 J (0.001)	ND (0.001)	NA	ND (0.001)
Methyl tert-butyl ether	0.02	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.004 (0.001)	0.004 (0.001)	0.0056 (0.001)	0.0047 (0.001)	0.0054 (0.001)	NA	ND (0.001)
Toluene	1	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.0012 (0.001)	ND (0.001)	NA	ND (0.001)
1,2,4-Trimethylbenzene	0.53	NA	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.002)	0.00085 J (0.001)	ND (0.002)	NA	ND (0.002)
1,3,5-Trimethylbenzene	0.53	NA	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.002)	0.00024 J (0.001)	ND (0.002)	NA	ND (0.002)
Xylenes (total)	10	ND (0.005)	ND (0.001)	ND (0.003)	ND (0.003)	0.001 (0.001)	ND (0.001)	ND (0.001)	0.0021 J (0.003)	ND (0.001)	NA	ND (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	0.000264 (0.0001)	0.00024 (0.0001)	0.000239 (0.0001)	NA	ND (0.0005)
Benzo(a)anthracene	0.0039	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)
Benzo(a)pyrene	0.0002	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)
Benzo(b)fluoranthene	0.0012	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	ND (0.0005)
Benzo(g,h,i)perylene	0.00026	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	ND (0.0005)
Chrysene	0.0019	ND (0.01)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.005)	ND (0.005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	ND (0.0005)
Fluorene	1.9	ND (0.01)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.005)	ND (0.005)	0.000971 (0.0001)	0.0011 (0.0001)	0.000869 (0.0001)	NA	ND (0.0005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	ND (0.01)	ND (0.0001)	ND (0.00025)	ND (0.00025)	ND (0.005)	ND (0.005)	ND (0.0001)	0.0014 (0.0001)	ND (0.0001)	NA	ND (0.0005)
Phenanthrene	1.1	ND (0.01)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.005)	ND (0.005)	0.000306 (0.0001)	0.00057 (0.0001)	0.000228 (0.0001)	NA	ND (0.0005)
Pyrene	0.13	ND (0.01)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.005)	ND (0.005)	ND (0.0001)	0.000069 J (0.0001)	ND (0.0001)	NA	ND (0.0005)
Metals												
Lead	0.005	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.001)	NA
Lead (Dissolved)	0.005	NA	ND (0.003)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.000001)	ND (0.003)	ND (0.005)	ND (0.003)	NA	ND (0.001)

Notes:
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3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-120	S-120	S-120	S-120	S-121	S-121	S-121	S-121	S-122	S-122	S-122
Field Sample ID	Groundwater MSC	S-120-20160518	S-120-20160812-WG	S-120-20161011-WG	S-120-20161011-WG-DUP	S-121	S121-050405	S-121_06_13_2013	S-121-20160815	S122-050305	S-122_20150518	S-122-20160512
Sample Date	Used Aquifer	5/18/2016	8/12/2016	10/11/2016	10/11/2016	10/20/2004	5/4/2005	6/13/2013	8/15/2016	5/3/2005	5/18/2015	5/12/2016
Comments	(TDS ≤ 2500)				Field Duplicate							
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	NA	ND (0.001)	ND (0.001)
Cumene	3.5	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.002)	ND (0.001)	NA	ND (0.002)	ND (0.002)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.00001)	ND (0.00001)	ND (0.00001)	ND (0.00002)	ND (0.000028)	ND (0.00002)	ND (0.00001)	NA	ND (0.000029)	ND (0.000029)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	NA	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	NA	ND (0.001)	ND (0.001)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	NA	ND (0.001)	ND (0.001)
Toluene	1	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	NA	ND (0.001)	ND (0.001)
1,2,4-Trimethylbenzene	0.53	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	ND (0.002)	ND (0.001)	NA	ND (0.002)	ND (0.002)
1,3,5-Trimethylbenzene	0.53	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	ND (0.002)	ND (0.001)	NA	ND (0.002)	ND (0.002)
Xylenes (total)	10	ND (0.001)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.01)	ND (0.005)	ND (0.001)	ND (0.003)	NA	ND (0.001)	ND (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)	ND (0.0005)
Benzo(a)anthracene	0.0039	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)	ND (0.0005)
Benzo(a)pyrene	0.0002	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)	ND (0.0005)
Benzo(b)fluoranthene	0.0012	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)	ND (0.0005)
Benzo(g,h,i)perylene	0.00026	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)	ND (0.0005)
Chrysene	0.0019	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00014)	ND (0.01)	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)	ND (0.0005)
Fluorene	1.9	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.01)	ND (0.01)	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)	ND (0.0005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	NA	ND (0.00005)	NA	NA	NA
Naphthalene	0.1	ND (0.0005)	ND (0.00025)	ND (0.00025)	ND (0.00025)	ND (0.005)	ND (0.01)	ND (0.0001)	ND (0.00025)	NA	0.0002 J (0.0005)	ND (0.0005)
Phenanthrene	1.1	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.01)	ND (0.01)	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)	ND (0.0005)
Pyrene	0.13	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.01)	ND (0.01)	ND (0.0001)	ND (0.00005)	NA	ND (0.0005)	ND (0.0005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	ND (0.001)	NA	NA	ND (0.001)	NA	NA
Lead (Dissolved)	0.005	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.005)	NA	ND (0.003)	ND (0.002)	NA	ND (0.001)	ND (0.001)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
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H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-122	S-122	S-122	S-123	S-123	S-123	S-123	S-124	S-124	S-124	S-124
Field Sample ID	Groundwater MSC	S-122-20160809-WG	S-122-20161013-WG	S-122-20161013-WG-DUP	S-123	S123-050405	S-123-20160818-WG	S-123-20161013-WG	S-124 GROUNDWATER	S-124-20160819-WG	S-124-20160819-WG-DUP	S-124-20161012-WG
Sample Date	Used Aquifer	8/9/2016	10/13/2016	10/13/2016	10/20/2004	5/4/2005	8/18/2016	10/13/2016	4/8/2010	8/19/2016	8/19/2016	10/12/2016
Comments	(TDS ≤ 2500)			Field Duplicate							Field Duplicate	
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	ND (0.001)	ND (0.001)	0.15	0.008 (0.005)	0.00486 (0.001)	0.00614 (0.001)	2.8 SL (0.005)	3.21 (0.05)	3.4 (0.05)	4.23 SL (0.05)
Cumene	3.5	ND (0.001)	ND (0.001)	ND (0.001)	0.019	0.01 (0.005)	ND (0.001)	0.00233 (0.001)	NA	ND (0.05)	ND (0.05)	ND,SL (0.05)
1,2-Dibromoethane	0.00005	ND (0.00001)	ND (0.00001)	ND (0.00001)	ND (0.00002)	ND (0.000028)	ND (0.00001)	ND (0.00001)	NA	ND (0.00001)	ND (0.00001)	ND,SL (0.00001)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0037)	ND (0.005)	ND (0.001)	ND (0.001)	ND,SL (0.01)	ND (0.05)	ND (0.05)	ND,SL (0.05)
Ethyl Benzene	0.7	ND (0.001)	ND (0.001)	ND (0.001)	0.28	0.068 (0.005)	0.0107 (0.001)	0.049 (0.001)	0.33 SL (0.008)	0.876 (0.05)	0.921 (0.05)	0.646 SL (0.05)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0044)	ND (0.005)	ND (0.001)	ND (0.001)	0.009 J,SL (0.005)	ND (0.05)	ND (0.05)	ND,SL (0.05)
Toluene	1	ND (0.005)	ND (0.005)	ND (0.005)	0.26	0.19 (0.005)	0.0208 (0.005)	0.0955 (0.005)	0.37 SL (0.007)	0.297 (0.25)	0.311 (0.25)	ND,SL (0.25)
1,2,4-Trimethylbenzene	0.53	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	0.0125 (0.001)	0.032 (0.001)	NA	0.839 (0.05)	0.93 (0.05)	0.545 SL (0.05)
1,3,5-Trimethylbenzene	0.53	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	0.00222 (0.001)	0.00318 (0.001)	NA	0.264 (0.05)	0.285 (0.05)	0.16 SL (0.05)
Xylenes (total)	10	ND (0.003)	ND (0.003)	ND (0.003)	1.3	0.25 (0.005)	0.0434 (0.003)	0.134 (0.003)	3.8 SL (0.008)	1.82 (0.15)	2.1 (0.15)	1.39 SL (0.15)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	0.00131 (0.00005)	0.00034 (0.00005)	NA	0.00161 (0.00005)	0.00108 (0.00005)	0.00142 SL (0.00005)
Benzo(a)anthracene	0.0039	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.00005)	ND (0.00005)	NA	ND (0.00005)	ND (0.00005)	ND,SL (0.00005)
Benzo(a)pyrene	0.0002	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.00005)	ND (0.00005)	NA	ND (0.00005)	ND (0.00005)	ND,SL (0.00005)
Benzo(b)fluoranthene	0.0012	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.00005)	ND (0.00005)	NA	ND (0.00005)	ND (0.00005)	ND,SL (0.00005)
Benzo(g,h,i)perylene	0.00026	ND,OE (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.00005)	ND (0.00005)	NA	ND (0.00005)	ND (0.00005)	ND,SL (0.00005)
Chrysene	0.0019	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00014)	ND (0.01)	ND (0.00005)	ND (0.00005)	NA	ND (0.00005)	ND (0.00005)	ND,SL (0.00005)
Fluorene	1.9	ND (0.00005)	ND (0.00005)	ND (0.00005)	0.013	0.013 (0.01)	0.00251 (0.00005)	0.00122 (0.00005)	NA	0.00623 (0.00005)	0.00451 (0.00005)	0.00419 SL (0.00005)
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND,OE (0.00005)	ND (0.00005)	NA	ND (0.00005)	ND (0.00005)	ND,SL (0.00005)
Naphthalene	0.1	ND (0.00025)	ND (0.00025)	ND (0.00025)	0.22	0.026 (0.01)	0.00241 (0.00025)	0.00423 (0.00025)	NA	0.347 (0.005)	0.307 (0.005)	0.164 SL (0.005)
Phenanthrene	1.1	ND (0.00005)	ND (0.00005)	ND (0.00005)	0.024	0.034 (0.01)	0.00517 (0.00005)	0.00185 (0.00005)	NA	0.0151 (0.00005)	0.00913 (0.00005)	0.01 SL (0.00005)
Pyrene	0.13	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.01)	ND (0.01)	0.00116 (0.00005)	0.000279 (0.00005)	NA	0.0005 (0.00005)	0.000172 (0.00005)	0.000359 SL (0.00005)
Metals												
Lead	0.005	NA	NA	NA	NA	ND (0.001)	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.005)	NA	ND (0.002)	ND (0.002)	NA	ND (0.002)	ND (0.002)	ND,SL (0.002)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
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J+ - Indicates an estimated value that is biased high
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-14	S-14	S-14	S-14	S-14	S-16	S-16	S-16	S-16	S-16	S-17
Field Sample ID	Groundwater MSC	S-14_113009	S-14_072110	AOI3_S-14_082313	AOI3_S-14_061515	AOI3_S-14_122915	S-16_071610	AOI3-S-16_082213	AOI3_S-16_061115	AOI3_S-16_121715	S-16_20230428	S-17_113009
Sample Date	Used Aquifer	11/30/2009	7/21/2010	8/23/2013	6/15/2015	12/29/2015	7/16/2010	8/22/2013	6/11/2015	12/17/2015	4/28/2023	11/30/2009
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.007 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0005)	0.22 (0.005)	0.233 (0.05)	0.221 (0.001)	0.278 (0.0025)	0.24 (0.005)	0.013 (0.001)
Cumene	3.5	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	0.088 (0.01)	0.0883 (0.002)	0.11 (0.001)	0.115 (0.001)	0.148 (0.001)	0.006 (0.002)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000029)	ND (0.00002)	0.000063 (0.00004)	ND (0.000019)	ND (0.000029)	ND (0.00002)	0.00014 (0.00004)	ND (0.00002)	ND (0.000021)	ND (0.00003)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.11 (0.005)	0.082 (0.001)	0.0854 (0.001)	0.0829 (0.001)	0.0906 (0.001)	0.001 (0.001)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.04 (0.005)	0.0312 (0.001)	0.0303 (0.001)	0.0254 (0.001)	0.0169 (0.001)	0.009 (0.001)
Toluene	1	ND (0.001)	ND (0.001)	ND (0.001)	0.001 (0.001)	ND (0.001)	0.044 (0.005)	0.0435 (0.001)	0.0485 (0.001)	0.0534 (0.001)	0.0574 (0.001)	ND (0.001)
1,2,4-Trimethylbenzene	0.53	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.002)	0.4 (0.01)	0.236 (0.1)	0.259 (0.001)	0.328 (0.01)	0.223 (0.02)	ND (0.002)
1,3,5-Trimethylbenzene	0.53	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.002)	0.14 (0.01)	0.105 (0.002)	0.127 (0.001)	0.139 (0.002)	0.147 (0.002)	ND (0.002)
Xylenes (total)	10	0.001 (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.001)	0.38 (0.005)	0.272 (0.001)	0.277 (0.003)	0.308 (0.001)	0.289 (0.001)	0.002 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	0.000385 (0.0001)	0.00077 (0.00012)	0.00185 (0.0001)	0.000622 J (0.0008)	NA
Benzo(a)anthracene	0.0039	NA	NA	ND (0.0001)	0.000025 J (0.0001)	ND (0.00005)	NA	0.000263 (0.0001)	ND (0.00012)	0.000592 (0.00005)	ND (0.0004)	NA
Benzo(a)pyrene	0.0002	NA	NA	ND (0.0001)	0.000019 J (0.0001)	0.000101 (0.00005)	NA	0.000182 (0.0001)	ND (0.00012)	0.000251 (0.00005)	ND (0.0004)	NA
Benzo(b)fluoranthene	0.0012	NA	NA	ND (0.0001)	0.000064 J (0.0001)	0.000157 (0.0001)	NA	0.000168 (0.0001)	ND (0.00012)	ND (0.0001)	ND (0.0004)	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	0.000152 (0.0001)	ND (0.00012)	0.000165 (0.0001)	ND (0.0008)	NA
Chrysene	0.0019	ND (0.005)	ND (0.005)	ND (0.0001)	0.000018 J (0.0001)	ND (0.0001)	ND (0.024)	0.000344 (0.0001)	ND (0.00012)	0.000487 (0.0001)	ND (0.0008)	ND (0.005)
Fluorene	1.9	ND (0.005)	ND (0.005)	ND (0.0001)	0.000017 J (0.0001)	ND (0.0001)	ND (0.024)	0.00245 (0.0001)	0.0031 (0.00012)	0.00369 (0.001)	0.00249 (0.0008)	ND (0.005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	ND (0.005)	ND (0.005)	0.000238 (0.0001)	0.00014 (0.0001)	ND (0.0001)	ND (0.024)	ND (0.0001)	0.005 (0.00012)	ND (0.0001)	0.00382 (0.0008)	ND (0.005)
Phenanthrene	1.1	ND (0.005)	ND (0.005)	ND (0.0001)	0.000026 J (0.0001)	ND (0.0001)	0.029 (0.024)	0.00294 (0.0001)	0.0042 (0.00012)	0.00695 (0.001)	0.00302 (0.0008)	ND (0.005)
Pyrene	0.13	ND (0.005)	ND (0.005)	ND (0.0001)	0.000033 J (0.0001)	ND (0.0001)	ND (0.024)	0.000501 (0.0001)	ND (0.00012)	0.000918 (0.0001)	ND (0.0008)	ND (0.005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.001)	ND (0.000001)	ND (0.003)	ND (0.005)	ND (0.003)	ND (0.000001)	ND (0.003)	ND (0.005)	0.0024 J (0.003)	ND (0.001)	ND (0.001)

Notes:

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3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-17	S-17	S-17	S-17	S-20	S-20	S-20	S-20	S-20	S-213	S-213
Field Sample ID	Groundwater MSC	S-17_071610	AOI3_S-17_082313	AOI3_S-17_061015	AOI3_S-17_121515	S-20_20190620	S-20_20191029	S-20_20210426	S-20_20220324	S-20_20230427	S-213_072312	S-213
Sample Date	Used Aquifer	7/16/2010	8/23/2013	6/10/2015	12/15/2015	6/20/2019	10/29/2019	4/26/2021	3/24/2022	4/27/2023	7/23/2012	5/29/2014
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	ND (0.001)	0.00063 J (0.001)	ND (0.0005)	0.0004 J (0.001)	0.0005 J (0.001)	0.0022 (0.001)	0.00066 (0.0005)	0.00056 (0.0005)	0.04 (0.005)	0.0163 (0.0005)
Cumene	3.5	0.004 (0.002)	0.0036 (0.002)	0.0061 (0.001)	0.0039 (0.001)	0.016 (0.005)	0.014 (0.005)	0.014 (0.005)	0.0209 (0.001)	0.0181 (0.001)	0.037 (0.01)	0.0604 (0.001)
1,2-Dibromoethane	0.00005	ND (0.00003)	ND (0.00002)	0.000046 (0.00004)	ND (0.000019)	ND (0.000028)	ND,XQ (0.000028)	ND (0.000029)	ND (0.000021)	ND (0.00002)	0.000012 J (0.000029)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
Ethyl Benzene	0.7	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0004 J (0.001)	0.0003 J (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.004 J (0.005)	0.0022 (0.001)
Methyl tert-butyl ether	0.02	0.005 (0.001)	0.002 (0.001)	0.0016 (0.001)	0.0014 (0.001)	0.041 (0.001)	0.044 (0.001)	0.029 (0.001)	0.0304 (0.001)	0.023 (0.001)	0.006 (0.005)	0.0121 (0.001)
Toluene	1	ND (0.001)	0.00027 J (0.001)	0.00027 J (0.001)	ND (0.001)	0.002 (0.001)	0.001 (0.001)	0.0018 (0.001)	0.0018 (0.001)	0.0016 (0.001)	0.013 (0.005)	0.0052 (0.001)
1,2,4-Trimethylbenzene	0.53	ND (0.002)	ND (0.002)	0.00027 J (0.001)	ND (0.002)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)
1,3,5-Trimethylbenzene	0.53	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.002)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)
Xylenes (total)	10	0.002 (0.001)	0.00035 J (0.001)	0.0011 J (0.003)	0.00046 J (0.001)	0.006 (0.005)	0.004 (0.003)	0.0049 J (0.006)	0.0072 (0.001)	0.007 (0.001)	0.007 (0.005)	0.0063 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	ND (0.0001)	0.000078 J (0.0001)	ND (0.0001)	0.0005 (0.0005)	0.0005 J (0.0005)	0.00027 J (0.00061)	0.00027 (0.000074)	0.000444 (0.00008)	0.0008 (0.0005)	0.000285 (0.0001)
Benzo(a)anthracene	0.0039	NA	ND (0.0001)	0.00016 (0.0001)	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.00061)	ND (0.000037)	ND (0.00004)	0.0001 J (0.0005)	ND (0.0001)
Benzo(a)pyrene	0.0002	NA	ND (0.0001)	0.00019 (0.0001)	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.00061)	ND (0.000037)	ND (0.00004)	0.0001 J (0.0005)	ND (0.0001)
Benzo(b)fluoranthene	0.0012	NA	ND (0.0001)	0.00036 (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00061)	ND (0.000037)	ND (0.00004)	0.0002 J (0.0005)	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	NA	ND (0.0001)	0.00015 (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00061)	ND (0.000074)	ND (0.00008)	0.0001 J (0.0005)	ND (0.0001)
Chrysene	0.0019	ND (0.005)	ND (0.0001)	0.00022 (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00061)	ND (0.000074)	ND (0.00008)	0.0002 J (0.0005)	ND (0.0001)
Fluorene	1.9	ND (0.005)	ND (0.0001)	0.000078 J (0.0001)	ND (0.0001)	0.001 (0.0005)	ND (0.0005)	0.00043 J (0.00061)	0.000278 (0.000074)	0.000428 (0.00008)	0.006 (0.0005)	0.00282 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	ND (0.005)	ND (0.0001)	0.00029 (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00061)	ND (0.000074)	0.00259 (0.00008)	0.003 (0.0005)	ND (0.0001)
Phenanthrene	1.1	ND (0.005)	ND (0.0001)	0.00014 (0.0001)	ND (0.0001)	0.001 (0.0005)	0.0007 (0.0005)	0.00039 J (0.00061)	ND (0.000074)	0.000861 (0.00008)	0.005 (0.0005)	0.00247 (0.0001)
Pyrene	0.13	ND (0.005)	ND (0.0001)	0.00028 (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00061)	ND (0.000074)	ND (0.00008)	0.0006 (0.0005)	0.000155 (0.0001)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.000001)	0.0025 J (0.003)	ND (0.005)	ND (0.003)	ND (0.003)	0.00052 (0.0005)	ND (0.00052)	ND (0.001)	ND (0.001)	0.00052 J (0.001)	ND (0.003)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-213	S-214	S-214	S-214	S-214	S-216	S-216	S-216	S-216	S-216	S-218	S-218
Field Sample ID	Groundwater MSC	S-213-20141211	S214-042005	S-214_072312	S-214	S-214-20141211	S216-042805	S-216_06_12_2013	S-216-20160816-WG	S-216-20161012-WG	S218-042805	S-218_06_14_2013
Sample Date	Used Aquifer	12/11/2014	4/20/2005	7/23/2012	5/28/2014	12/11/2014	4/28/2005	6/12/2013	8/16/2016	10/12/2016	4/28/2005	6/14/2013
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.0199 (0.0005)	0.58 (0.025)	0.18 (0.005)	0.0709 (0.0005)	0.169 (0.0005)	0.29 (0.01)	0.0237 (0.001)	0.0182 (0.001)	0.0194 (0.005)	2.2 (0.05)	0.682 (0.005)
Cumene	3.5	0.0868 (0.001)	0.074 (0.005)	0.06 (0.01)	0.0334 (0.001)	0.068 (0.001)	0.073 (0.01)	0.0262 (0.002)	0.0288 (0.001)	0.0223 (0.005)	ND (0.05)	0.0157 (0.01)
1,2-Dibromoethane	0.00005	ND (0.00002)	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.00002)	ND (0.000029)	ND (0.00002)	ND (0.00001)	ND (0.00001)	0.000052 (0.000029)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.05)	ND (0.005)
Ethyl Benzene	0.7	0.0028 (0.001)	0.19 (0.005)	0.012 (0.005)	0.0039 (0.001)	0.0152 (0.001)	0.11 (0.01)	0.00085 J (0.001)	0.00105 (0.001)	ND (0.005)	1.3 (0.05)	0.0415 (0.005)
Methyl tert-butyl ether	0.02	0.005 (0.001)	0.01 (0.005)	ND (0.005)	ND (0.001)	0.00047 J (0.001)	0.21 (0.01)	0.0006 J (0.001)	0.00417 (0.001)	ND (0.005)	ND (0.05)	0.0183 (0.005)
Toluene	1	0.0079 (0.001)	0.069 (0.005)	0.034 (0.005)	0.0148 (0.001)	0.0393 (0.001)	0.048 (0.01)	0.0046 (0.001)	0.00611 (0.005)	ND (0.025)	0.36 (0.05)	0.0242 (0.005)
1,2,4-Trimethylbenzene	0.53	ND (0.002)	NA	ND (0.01)	0.00069 J (0.002)	0.00058 J (0.002)	NA	0.00034 J (0.002)	ND (0.001)	0.0125 (0.005)	NA	0.0891 (0.01)
1,3,5-Trimethylbenzene	0.53	0.00045 J (0.002)	NA	0.006 J (0.01)	0.0032 (0.002)	0.0072 (0.002)	NA	ND (0.002)	ND (0.001)	ND (0.005)	NA	0.117 (0.01)
Xylenes (total)	10	0.0077 (0.001)	0.19 (0.005)	0.023 (0.005)	0.0172 (0.001)	0.0286 (0.001)	0.24 (0.01)	0.0037 (0.001)	0.00522 (0.003)	ND (0.015)	2.4 (0.05)	0.267 (0.005)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.0001)	NA	0.0002 J (0.0005)	ND (0.00011)	ND (0.0001)	NA	0.000246 (0.0001)	ND (0.00005)	ND,J (0.00005)	NA	ND (0.0001)
Benzo(a)anthracene	0.0039	ND (0.0001)	NA	ND (0.0005)	ND (0.00011)	ND (0.0001)	NA	ND (0.0001)	ND (0.00005)	ND,J (0.00005)	NA	ND (0.0001)
Benzo(a)pyrene	0.0002	ND (0.0001)	NA	ND (0.0005)	ND (0.00011)	ND (0.0001)	NA	ND (0.0001)	ND (0.00005)	ND,J (0.00005)	NA	ND (0.0001)
Benzo(b)fluoranthene	0.0012	ND (0.0001)	NA	ND (0.0005)	ND (0.00011)	ND (0.0001)	NA	ND (0.0001)	ND (0.00005)	ND,J (0.00005)	NA	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	NA	ND (0.0005)	ND (0.00011)	ND (0.0001)	NA	ND (0.0001)	ND (0.00005)	ND,J (0.00005)	NA	ND (0.0001)
Chrysene	0.0019	ND (0.0001)	ND (0.01)	ND (0.0005)	ND (0.00011)	ND (0.0001)	ND (0.01)	ND (0.0001)	ND (0.00005)	ND,J (0.00005)	ND (0.01)	ND (0.0001)
Fluorene	1.9	0.00202 (0.0001)	ND (0.01)	0.003 (0.0005)	0.00222 (0.00011)	0.00226 (0.0001)	0.06 (0.01)	0.00347 (0.0001)	0.00296 (0.00005)	0.00268 J- (0.00005)	ND (0.01)	0.000424 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND,J (0.00005)	NA	NA
Naphthalene	0.1	ND (0.0001)	0.03 (0.01)	0.001 (0.0005)	ND (0.00011)	ND (0.0001)	0.15 (0.05)	ND (0.0001)	0.00136 (0.00025)	0.00648 J- (0.00025)	0.25 (0.051)	0.0827 (0.001)
Phenanthrene	1.1	0.00127 (0.0001)	ND (0.01)	0.002 (0.0005)	0.00136 (0.00011)	0.00121 (0.0001)	0.087 (0.01)	0.00271 (0.0001)	0.00361 (0.00005)	0.00353 J- (0.00005)	ND (0.01)	0.000386 (0.0001)
Pyrene	0.13	ND (0.0001)	ND (0.01)	ND (0.0005)	ND (0.00011)	ND (0.0001)	ND (0.01)	ND (0.0001)	0.00017 (0.00005)	0.000122 J- (0.00005)	ND (0.01)	ND (0.0001)
Metals												
Lead	0.005	NA	ND (0.001)	NA	NA	NA	ND (0.001)	NA	NA	NA	ND (0.001)	NA
Lead (Dissolved)	0.005	0.0013 J (0.003)	NA	0.00096 J (0.001)	0.0018 J (0.003)	ND (0.003)	NA	ND (0.003)	ND (0.002)	ND (0.002)	NA	ND (0.003)

Notes:

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2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
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J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-218	S-218	S-218	S-219	S-219	S-219	S-219	S-219	S-219	S-220	S-220
Field Sample ID	Groundwater MSC	S-218-20160817-WG	S-218-20160817-WG-DUP	S-218-20161012-WG	S219-042805	S-219_06_12_2013	S-219-20160815	S-219-20161011-WG	S-219-230106	S-219-230209	S-220-20160818-WG	S-220-20161012-WG
Sample Date	Used Aquifer	8/17/2016	8/17/2016	10/12/2016	4/28/2005	6/12/2013	8/15/2016	10/11/2016	1/6/2023	2/9/2023	8/18/2016	10/12/2016
Comments	(TDS ≤ 2500)		Field Duplicate									
Volatile Organic Compounds												
Benzene	0.005	0.638 (0.01)	0.636 (0.005)	0.498 (0.01)	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0005)	ND (0.0005)	ND,SL (0.01)	0.174 SL (0.1)
Cumene	3.5	0.0221 (0.01)	0.0216 (0.005)	0.0138 (0.01)	NA	ND (0.002)	ND (0.001)	ND (0.001)	0.00028 J (0.0005)	ND (0.0005)	0.07 SL (0.01)	ND,SL (0.1)
1,2-Dibromoethane	0.00005	ND (0.00001)	ND (0.00001)	ND (0.00001)	NA	ND (0.00002)	ND (0.00001)	ND (0.00001)	ND (0.00001)	ND (0.00001)	ND,SL (0.00001)	ND,SL (0.00001)
1,2-Dichloroethane	0.005	ND (0.01)	ND (0.005)	ND (0.01)	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0005)	ND (0.0005)	ND,SL (0.01)	ND,SL (0.1)
Ethyl Benzene	0.7	0.103 (0.01)	0.0958 (0.005)	0.0487 (0.01)	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0005)	ND (0.0005)	0.244 SL (0.01)	0.342 SL (0.1)
Methyl tert-butyl ether	0.02	ND (0.01)	ND (0.005)	ND (0.01)	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.01)	ND,SL (0.1)
Toluene	1	0.0623 (0.05)	0.0612 (0.025)	ND (0.05)	NA	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.00075)	0.00034 J (0.00075)	ND,SL (0.05)	ND,SL (0.5)
1,2,4-Trimethylbenzene	0.53	0.119 (0.01)	0.112 (0.005)	0.0286 (0.01)	NA	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.0025)	ND (0.0025)	0.902 SL (0.01)	0.173 SL (0.1)
1,3,5-Trimethylbenzene	0.53	0.106 (0.01)	0.0986 (0.005)	0.0546 (0.01)	NA	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.0025)	ND (0.0025)	0.498 SL (0.01)	0.122 SL (0.1)
Xylenes (total)	10	0.307 (0.03)	0.286 (0.015)	0.132 (0.03)	NA	ND (0.001)	ND (0.003)	ND (0.003)	ND (0.001)	ND (0.001)	0.542 SL (0.03)	0.314 SL (0.3)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)	ND,SL (0.00005)	0.00443 J+,SL (0.0000625)
Benzo(a)anthracene	0.0039	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	0.00018 (0.00005)	ND (0.00005)	0.00039 SL (0.00005)	0.000221 J+,SL (0.0000625)
Benzo(a)pyrene	0.0002	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)	0.000206 SL (0.00005)	0.0000754 J+,SL (0.0000625)
Benzo(b)fluoranthene	0.0012	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	0.000146 SL (0.00005)	0.000107 J+,SL (0.0000625)
Benzo(g,h,i)perylene	0.00026	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)	ND,SL (0.00005)	0.000101 J+,SL (0.0000625)
Chrysene	0.0019	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)	0.000444 SL (0.00005)	0.000228 J+,SL (0.0000625)
Fluorene	1.9	0.000814 (0.00005)	0.00071 (0.00005)	0.000917 (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)	0.0354 SL (0.001)	0.0149 J+,SL (0.0000625)
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)	0.0000588 OE,SL (0.00005)	ND,SL (0.0000625)
Naphthalene	0.1	0.0854 (0.00025)	0.0495 (0.00025)	0.0206 (0.00025)	NA	ND (0.0001)	ND (0.00025)	ND (0.00025)	ND (0.0001)	ND (0.0001)	0.349 SL (0.005)	0.338 SL (0.00625)
Phenanthrene	1.1	0.000723 (0.00005)	0.00063 (0.00005)	0.000817 (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	0.0702 SL (0.00005)	0.0364 J+,SL (0.0000625)
Pyrene	0.13	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)	0.00396 SL (0.00005)	0.00188 J+,SL (0.0000625)
Metals												
Lead	0.005	NA	NA	NA	ND (0.001)	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.002)	ND (0.002)	ND (0.002)	NA	ND (0.003)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND,SL (0.002)	ND,SL (0.002)

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-222	S-222	S-222	S-222	S-222	S-222	S-222	S-223	S-223	S-223	S-223
Field Sample ID	Groundwater MSC	S-222-080105	S-222_11_8_2005	S-222_20150518	S-222-20160518	S-222-20160817-WG	S-222-20161013-WG	S-222-20170517	S-223-080105	S-223-20160817-WG	S-223-20161013-WG	S-223_20190628
Sample Date	Used Aquifer	8/1/2005	11/8/2005	5/18/2015	5/18/2016	8/17/2016	10/13/2016	5/17/2017	8/1/2005	8/17/2016	10/13/2016	6/28/2019
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.003 (0.001)	NA	NA	NA	NA
Cumene	3.5	NA	NA	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.002)	NA	NA	NA	NA
1,2-Dibromoethane	0.00005	NA	NA	ND (0.000029)	ND (0.000029)	ND (0.00001)	ND (0.00001)	ND (0.000029)	NA	NA	NA	NA
1,2-Dichloroethane	0.005	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	NA
Ethyl Benzene	0.7	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	0.00116 (0.001)	0.002 (0.001)	NA	NA	NA	NA
Methyl tert-butyl ether	0.02	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	NA
Toluene	1	NA	NA	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	0.002 (0.001)	NA	NA	NA	NA
1,2,4-Trimethylbenzene	0.53	NA	NA	ND (0.002)	ND (0.002)	ND (0.001)	0.00242 (0.001)	0.002 J (0.002)	NA	NA	NA	NA
1,3,5-Trimethylbenzene	0.53	NA	NA	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	0.0006 J (0.002)	NA	NA	NA	NA
Xylenes (total)	10	NA	NA	ND (0.001)	ND (0.001)	ND (0.003)	0.00473 (0.003)	0.008 (0.001)	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00005)	0.00015 (0.00005)	ND (0.0005)	NA	NA	NA	NA
Benzo(a)anthracene	0.0039	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA	NA	NA
Benzo(a)pyrene	0.0002	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA	NA	NA
Benzo(b)fluoranthene	0.0012	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA	NA	NA
Chrysene	0.0019	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA	NA	NA
Fluorene	1.9	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00005)	0.000482 (0.00005)	ND (0.0005)	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	ND (0.0001)	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.00005)	ND (0.00005)	NA
Naphthalene	0.1	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00025)	0.000704 (0.00025)	0.0003 J (0.0005)	NA	NA	NA	NA
Phenanthrene	1.1	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00005)	0.000468 (0.00005)	ND (0.0005)	NA	NA	NA	NA
Pyrene	0.13	NA	NA	ND (0.0005)	ND (0.0005)	ND (0.00005)	0.0000905 (0.00005)	ND (0.0005)	NA	NA	NA	NA
Metals												
Lead	0.005	ND (0.001)	ND (0.01)	NA	NA	NA	NA	NA	ND (0.001)	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.001)	NA	NA	NA	ND (0.003)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
NA - Not Analyzed
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H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-223	S-223	S-223	S-223	S-223	S-223	S-223	S-223	S-223	S-224	S-224
Field Sample ID	Groundwater MSC	S-223_20191023	S-223_20200901	S-223_20210504	S-223_20220405	S-223_20230425	S-223_20230531	S-223_20230912	S-223_20231019	S-223_20231215	S-224-080105	S-224_12142012
Sample Date	Used Aquifer	10/23/2019	9/1/2020	5/4/2021	4/5/2022	4/25/2023	5/31/2023	9/12/2023	10/19/2023	12/15/2023	8/1/2005	12/14/2012
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	NA	NA	NA	12.5 (0.05)	1.22 (0.005)	1.39 (0.005)	2.14 (0.05)	2.29 (0.01)	NA	NA
Cumene	3.5	NA	NA	NA	NA	ND (0.1)	0.0112 (0.01)	0.0095 J (0.01)	0.013 (0.01)	0.0123 (0.01)	0.044 (0.01)	NA
1,2-Dibromoethane	0.00005	NA	NA	NA	NA	ND (0.00002)	ND (0.00002)	ND (0.000023)	ND (0.000021)	ND (0.000021)	ND (0.000029)	NA
1,2-Dichloroethane	0.005	NA	NA	NA	NA	ND (0.1)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	NA
Ethyl Benzene	0.7	NA	NA	NA	NA	1.34 (0.1)	0.285 (0.01)	0.184 (0.01)	0.221 (0.01)	0.22 (0.01)	NA	NA
Methyl tert-butyl ether	0.02	NA	NA	NA	NA	ND (0.1)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	NA
Toluene	1	NA	NA	NA	NA	0.221 (0.1)	0.163 (0.01)	0.167 (0.01)	0.184 (0.01)	0.227 (0.01)	NA	NA
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	NA	1.26 (0.2)	0.221 (0.02)	0.104 (0.02)	0.125 (0.02)	0.168 (0.02)	NA	NA
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	NA	0.382 (0.2)	0.102 (0.02)	0.0614 (0.02)	0.0778 (0.02)	0.0931 (0.02)	NA	NA
Xylenes (total)	10	NA	NA	NA	NA	7.28 (0.1)	0.455 (0.01)	0.305 (0.01)	0.324 (0.01)	0.413 (0.01)	NA	NA
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	NA	0.000394 (0.000077)	0.000061 J (0.000082)	ND (0.00008)	0.00006 J (0.000074)	ND (0.000074)	NA	NA
Benzo(a)anthracene	0.0039	NA	NA	NA	NA	0.0000252 J (0.000038)	ND (0.000041)	ND (0.00004)	ND (0.000037)	ND (0.000037)	NA	NA
Benzo(a)pyrene	0.0002	NA	NA	NA	NA	ND (0.000038)	ND (0.000041)	ND (0.00004)	ND (0.000037)	ND (0.000037)	NA	NA
Benzo(b)fluoranthene	0.0012	NA	NA	NA	NA	0.0000236 J (0.000038)	ND (0.000041)	ND (0.00004)	ND (0.000037)	ND (0.000037)	NA	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	NA	ND (0.000077)	ND (0.000082)	ND (0.00008)	ND (0.000074)	ND (0.000074)	NA	NA
Chrysene	0.0019	NA	NA	NA	NA	ND (0.000077)	ND (0.000082)	ND (0.00008)	ND (0.000074)	ND (0.000074)	ND (0.005)	NA
Fluorene	1.9	NA	NA	NA	NA	0.00113 (0.000077)	0.00035 (0.000082)	0.000365 (0.00008)	0.000471 (0.000074)	0.000423 B (0.000074)	ND (0.005)	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	NA	NA	NA	NA	0.128 (0.0038)	0.0332 B (0.00082)	0.0055 (0.0004)	0.0329 (0.0008)	0.0236 (0.0015)	0.1 (0.005)	NA
Phenanthrene	1.1	NA	NA	NA	NA	0.00298 (0.000077)	0.000252 B (0.000082)	ND (0.00008)	0.000274 (0.000074)	0.0000551 JB (0.000074)	ND (0.005)	NA
Pyrene	0.13	NA	NA	NA	NA	0.000148 (0.000077)	ND (0.000082)	ND (0.00008)	ND (0.000074)	ND (0.000074)	ND (0.005)	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0014 (0.001)	NA
Lead (Dissolved)	0.005	0.0001 J (0.0005)	ND (0.00052)	0.000074 J (0.00052)	ND (0.001)	NA	NA	NA	NA	NA	NA	ND (0.003)

Notes:
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XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-224	S-224	S-224	S-224	S-224	S-224	S-224	S-225	S-225	S-225	S-225
Field Sample ID	Groundwater MSC	S-224-20160816-WG	S-224-20161011-WG	S-224_20180125	S-224-20180402	S-224_20181128	S-224-20190118-WG	S-224_20190423	S225-042805	S-225_06_12_2013	S-225-20160815	S-225-20161011-WG
Sample Date	Used Aquifer	8/16/2016	10/11/2016	1/25/2018	4/2/2018	11/28/2018	1/18/2019	4/23/2019	4/28/2005	6/12/2013	8/15/2016	10/11/2016
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	NA	0.16 (0.005)	0.37 (0.01)	0.24 (0.05)	0.107 (0.001)	0.088 (0.005)	0.024 (0.005)	0.0044 (0.001)	ND (0.01)	0.0058 (0.001)
Cumene	3.5	0.0179 (0.001)	0.0136 (0.001)	NA	NA	NA	0.00825 (0.001)	NA	0.087 (0.005)	0.05 (0.002)	0.0682 (0.01)	0.0487 (0.001)
1,2-Dibromoethane	0.00005	ND (0.00001)	ND (0.00001)	NA	NA	NA	ND (0.00001)	NA	ND (0.000029)	ND (0.00002)	ND (0.00001)	ND (0.00001)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	NA	NA	NA	ND (0.001)	NA	ND (0.005)	ND (0.001)	ND (0.01)	ND (0.001)
Ethyl Benzene	0.7	NA	NA	0.17 (0.005)	0.41 (0.01)	0.17 (0.001)	0.104 (0.001)	0.007 (0.005)	ND (0.005)	0.0009 J (0.001)	ND (0.01)	ND (0.001)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	NA	NA	NA	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.01)	ND (0.001)
Toluene	1	NA	NA	0.043 (0.005)	0.11 (0.01)	0.049 (0.001)	0.0515 (0.001)	0.016 (0.005)	0.01 (0.005)	0.0029 (0.001)	ND (0.05)	ND (0.005)
1,2,4-Trimethylbenzene	0.53	0.136 (0.001)	0.101 (0.001)	NA	NA	NA	0.131 (0.001)	NA	NA	0.00038 J (0.002)	ND (0.01)	ND (0.001)
1,3,5-Trimethylbenzene	0.53	0.0289 (0.001)	0.026 (0.001)	NA	NA	NA	0.0373 (0.001)	NA	NA	ND (0.002)	ND (0.01)	ND (0.001)
Xylenes (total)	10	NA	NA	0.26 (0.005)	0.33 (0.01)	0.22 (0.005)	0.317 (0.003)	0.12 (0.025)	0.011 (0.005)	0.0027 (0.001)	ND (0.03)	ND (0.003)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00005)	0.0000746 (0.00005)	NA	NA	NA	NA	NA	NA	0.000436 (0.0001)	0.000279 (0.00005)	0.000217 (0.00005)
Benzo(a)anthracene	0.0039	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	0.000153 (0.0001)	0.0000828 (0.00005)	ND (0.00005)
Benzo(a)pyrene	0.0002	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)
Benzo(b)fluoranthene	0.0012	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)
Benzo(g,h,i)perylene	0.00026	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)
Chrysene	0.0019	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	ND (0.01)	0.000208 (0.0001)	0.0000713 (0.00005)	ND (0.00005)
Fluorene	1.9	0.000986 (0.00005)	0.000502 (0.00005)	NA	NA	NA	NA	NA	0.056 (0.01)	0.00274 (0.0001)	0.00249 (0.00005)	0.00208 (0.00005)
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)
Naphthalene	0.1	0.0412 (0.00025)	0.0172 (0.00025)	NA	NA	NA	NA	NA	ND (0.01)	ND (0.0001)	ND (0.00025)	0.000999 (0.00025)
Phenanthrene	1.1	0.000942 (0.00005)	0.000497 (0.00005)	NA	NA	NA	NA	NA	0.071 (0.01)	0.00202 (0.0001)	0.000591 (0.00005)	0.00161 (0.00005)
Pyrene	0.13	ND (0.00005)	0.0000599 (0.00005)	NA	NA	NA	NA	NA	ND (0.01)	0.000407 (0.0001)	0.000323 (0.00005)	0.000102 (0.00005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	ND (0.001)	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.002)	ND (0.002)	NA	NA	NA	NA	NA	NA	ND (0.003)	ND (0.002)	ND (0.002)

Notes:
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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-227	S-227	S-227	S-227	S-227	S-227	S-228	S-228	S-228	S-228	S-228
Field Sample ID	Groundwater MSC	S227-042005	S227_091405	S-227_091407	S-227_072012	S-227	S-227-20141215	S228_091405	S-228_091407	S-228_072012	S-228	S-228-20141212
Sample Date	Used Aquifer	4/20/2005	9/14/2005	9/14/2007	7/20/2012	5/28/2014	12/15/2014	9/14/2005	9/14/2007	7/20/2012	5/28/2014	12/12/2014
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	0.9 (0.1)	0.68 (0.005)	0.28 (0.005)	0.101 (0.0005)	0.0538 (0.0005)	0.77 (0.13)	0.24 (0.004)	0.14 (0.005)	0.0948 (0.0005)	0.0566 (0.0005)
Cumene	3.5	0.21 (0.02)	0.062 (0.01)	NA	0.077 (0.01)	0.0921 (0.001)	0.0705 (0.001)	0.044 (0.013)	NA	0.035 (0.01)	0.0506 (0.001)	0.0245 (0.001)
1,2-Dibromoethane	0.00005	ND (0.000029)	NA	NA	ND (0.000029)	ND (0.00002)	ND (0.00002)	NA	NA	ND (0.000029)	ND (0.00002)	0.00003 (0.00002)
1,2-Dichloroethane	0.005	ND (0.02)	NA	NA	ND (0.005)	ND (0.001)	ND (0.001)	NA	NA	ND (0.005)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	NA	0.79 (0.1)	0.58 (0.005)	0.24 (0.005)	0.181 (0.001)	0.0286 (0.001)	0.28 (0.013)	0.39 (0.004)	0.055 (0.005)	0.078 (0.001)	0.0344 (0.001)
Methyl tert-butyl ether	0.02	NA	0.036 (0.01)	0.01 (0.005)	0.004 J (0.005)	0.0032 (0.001)	0.003 (0.001)	0.1 (0.013)	0.015 (0.004)	0.005 J (0.005)	0.0046 (0.001)	0.0047 (0.001)
Toluene	1	NA	0.12 (0.01)	0.068 (0.005)	0.039 (0.005)	0.0207 (0.001)	0.0095 (0.001)	0.05 (0.013)	0.028 (0.004)	0.021 (0.005)	0.0188 (0.001)	0.0117 (0.001)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	0.069 (0.01)	0.112 (0.002)	0.0034 (0.002)	NA	NA	0.015 (0.01)	0.0268 (0.002)	0.0091 (0.002)
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	0.031 (0.01)	0.0346 (0.002)	0.0031 (0.002)	NA	NA	0.01 J (0.01)	0.0151 (0.002)	0.008 (0.002)
Xylenes (total)	10	NA	2.2 (0.1)	1.1 (0.005)	0.31 (0.005)	0.292 (0.001)	0.0178 (0.001)	0.94 (0.013)	0.94 (0.004)	0.062 (0.005)	0.0783 (0.001)	0.0401 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	0.0005 J (0.0005)	0.000371 (0.00011)	0.00044 J- (0.0001)	NA	NA	0.0002 J (0.0005)	0.000168 (0.00011)	0.000146 (0.0001)
Benzo(a)anthracene	0.0039	NA	NA	NA	ND (0.0005)	ND (0.00011)	NA	NA	NA	ND (0.0005)	ND (0.00011)	ND (0.0001)
Benzo(a)pyrene	0.0002	NA	NA	NA	ND (0.0005)	ND (0.00011)	NA	NA	NA	ND (0.0005)	ND (0.00011)	ND (0.0001)
Benzo(b)fluoranthene	0.0012	NA	NA	NA	ND (0.0005)	ND (0.00011)	NA	NA	NA	ND (0.0005)	ND (0.00011)	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	ND (0.0005)	ND (0.00011)	NA	NA	NA	ND (0.0005)	ND (0.00011)	ND (0.0001)
Chrysene	0.0019	ND (0.01)	NA	NA	ND (0.0005)	ND (0.00011)	NA	NA	NA	ND (0.0005)	ND (0.00011)	ND (0.0001)
Fluorene	1.9	ND (0.01)	0.01 (0.005)	NA	0.005 (0.0005)	0.00364 (0.00011)	0.00492 J- (0.0001)	0.025 (0.006)	NA	0.002 (0.0005)	0.00164 (0.00011)	0.00228 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.1 (0.01)	0.11 (0.01)	NA	0.039 (0.0005)	0.0217 (0.0011)	0.00424 J- (0.0001)	0.073 (0.013)	NA	0.015 (0.0005)	0.00797 (0.0011)	0.00874 (0.001)
Phenanthrene	1.1	0.018 (0.01)	0.011 (0.005)	NA	0.005 (0.0005)	0.00343 (0.00011)	0.00427 J- (0.0001)	0.052 (0.006)	NA	0.002 (0.0005)	0.00126 (0.00011)	0.00179 (0.0001)
Pyrene	0.13	ND (0.01)	NA	NA	0.0002 J (0.0005)	0.000187 (0.00011)	0.000208 J- (0.0001)	NA	NA	0.0002 J (0.0005)	ND (0.00011)	ND (0.0001)
Metals												
Lead	0.005	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	0.00042 J (0.001)	ND (0.003)	ND (0.003)	NA	NA	0.000077 J (0.001)	0.0017 J (0.003)	ND (0.003)

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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-229	S-23	S-23	S-23	S-23	S-23	S-233	S-233	S-233	S-234	S-234
Field Sample ID	Groundwater MSC	S229-042805	S-23_120109	S-23_070710	AOI3-S-23_082213	AOI3_S-23_061115	AOI3_S-23_121615	S-233 GROUNDWATER	S233-GW-221012	S233-GW-221116	S-234_06_17_2013	S-234-20160817-WG
Sample Date	Used Aquifer	4/28/2005	12/1/2009	7/7/2010	8/22/2013	6/11/2015	12/16/2015	4/8/2010	10/12/2022	11/16/2022	6/17/2013	8/17/2016
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	1.9 (0.05)	ND (0.001)	ND (0.001)	ND (0.001)	0.00092 J (0.001)	ND (0.0005)	3.6 SL (0.025)	9.7 (0.05)	8 (0.025)	0.00029 J (0.001)	0.00174 (0.001)
Cumene	3.5	0.15 (0.05)	ND (0.002)	0.002 (0.002)	ND (0.002)	0.00059 J (0.001)	ND (0.001)	NA	ND (0.05)	0.015 J (0.025)	ND (0.002)	0.00123 (0.001)
1,2-Dibromoethane	0.00005	0.000033 (0.000029)	ND (0.00003)	ND (0.000029)	ND (0.00002)	0.000091 (0.00004)	ND (0.000019)	NA	ND (0.00001)	ND (0.00001)	ND (0.00002)	ND (0.00001)
1,2-Dichloroethane	0.005	ND (0.05)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.005)	ND (0.05)	ND (0.025)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.35 (0.05)	ND (0.001)	0.024 (0.001)	ND (0.001)	0.001 (0.001)	ND (0.001)	3.2 SL (0.04)	1.4 (0.05)	1 (0.025)	0.0035 (0.001)	0.0189 (0.001)
Methyl tert-butyl ether	0.02	ND (0.05)	0.12 (0.001)	ND (0.001)	0.0401 (0.001)	0.0498 (0.001)	0.0308 (0.001)	ND,SL (0.003)	ND (0.1)	ND (0.05)	ND (0.001)	ND (0.001)
Toluene	1	ND (0.05)	ND (0.001)	0.006 (0.001)	0.0003 J (0.001)	0.0024 (0.001)	ND (0.001)	4.3 SL (0.035)	0.46 (0.075)	0.6 (0.038)	0.00046 J (0.001)	0.00691 (0.005)
1,2,4-Trimethylbenzene	0.53	NA	ND (0.002)	0.051 (0.002)	ND (0.002)	0.0029 (0.001)	ND (0.002)	NA	1.5 (0.25)	1.3 (0.12)	0.0108 (0.002)	0.0462 (0.001)
1,3,5-Trimethylbenzene	0.53	NA	ND (0.002)	0.015 (0.002)	ND (0.002)	0.0011 (0.001)	ND (0.002)	NA	0.44 (0.25)	0.41 (0.12)	0.0061 (0.002)	0.0122 (0.001)
Xylenes (total)	10	0.63 (0.05)	ND (0.001)	0.057 (0.001)	ND (0.001)	0.0057 (0.003)	ND (0.001)	20 SL (0.04)	11.4 J (0.1)	9.1 J (0.05)	0.013 (0.001)	0.0792 (0.003)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	ND (0.0001)	0.00018 (0.0001)	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	0.00016 (0.00005)
Benzo(a)anthracene	0.0039	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	NA	0.00003 J (0.00005)	0.00004 J (0.00005)	ND (0.0001)	ND (0.00005)
Benzo(a)pyrene	0.0002	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.00005)
Benzo(b)fluoranthene	0.0012	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	0.00001 J (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.00005)
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.00005)
Chrysene	0.0019	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	0.00002 J (0.0001)	0.00003 J (0.0001)	ND (0.0001)	ND (0.00005)
Fluorene	1.9	0.011 (0.01)	ND (0.005)	ND (0.005)	ND (0.0001)	0.000048 J (0.0001)	ND (0.0001)	NA	0.0064 (0.0001)	0.0095 (0.0001)	ND (0.0001)	0.000525 (0.00005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)
Naphthalene	0.1	0.22 (0.051)	ND (0.005)	ND (0.005)	ND (0.0001)	0.00028 (0.0001)	ND (0.0001)	NA	0.16 (0.0005)	0.12 (0.0005)	0.000889 (0.0001)	0.00425 (0.00025)
Phenanthrene	1.1	0.015 (0.01)	ND (0.005)	ND (0.005)	ND (0.0001)	0.000069 J (0.0001)	ND (0.0001)	NA	0.011 (0.00005)	0.017 (0.00005)	0.000377 (0.0001)	0.000966 (0.00005)
Pyrene	0.13	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	0.00034 (0.0001)	0.00084 (0.0001)	0.000204 (0.0001)	0.000193 (0.00005)
Metals												
Lead	0.005	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	ND (0.001)	ND (0.000001)	ND (0.003)	ND (0.005)	ND (0.003)	NA	ND (0.001)	0.0003836 J (0.001)	ND (0.003)	ND (0.002)

Notes:
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XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-234	S-235	S-235	S-235	S-235	S-235	S-235	S-235	S-237	S-237	S-237
Field Sample ID	Groundwater MSC	S-234-20161011-WG	S-235-20160818-WG	S-235-20161012-WG	S-235_20230208SL	S-235_20230301SL	S-235_20230321SL	S-235_20230426SL	S-235_20230531_SL	S-237_20230208SL	S-237_20230301SL	S-237_20230321SL
Sample Date	Used Aquifer	10/11/2016	8/18/2016	10/12/2016	2/8/2023	3/1/2023	3/21/2023	4/26/2023	5/31/2023	2/8/2023	3/1/2023	3/21/2023
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.00985 (0.005)	NA	NA	8.61 SL (0.1)	9.55 SL (0.1)	11 SL (0.05)	0.436 SL (0.0013)	12.8 SL (0.05)	9 SL (0.1)	7.69 SL (0.05)	8.29 SL (0.05)
Cumene	3.5	ND (0.005)	NA	NA	0.0236 SL (0.02)	ND,SL (0.05)	0.0299 SL (0.025)	0.0052 SL (0.0025)	ND,SL (0.1)	0.0374 SL (0.025)	0.0391 SL (0.025)	0.0258 SL (0.025)
1,2-Dibromoethane	0.00005	ND (0.00001)	NA	NA	ND,SL (0.00002)	ND,SL (0.000021)	ND,SL (0.00002)	ND,SL (0.000021)	ND,SL (0.000021)	ND,SL (0.00002)	ND,SL (0.000021)	ND,SL (0.00002)
1,2-Dichloroethane	0.005	ND (0.005)	NA	NA	ND,SL (0.02)	ND,SL (0.05)	ND,SL (0.025)	ND,SL (0.0025)	ND,SL (0.1)	ND,SL (0.025)	ND,SL (0.025)	ND,SL (0.025)
Ethyl Benzene	0.7	0.00653 (0.005)	NA	NA	1.07 SL (0.02)	1.36 SL (0.05)	1.31 SL (0.025)	0.135 SL (0.0025)	1.4 SL (0.1)	0.973 SL (0.025)	0.98 SL (0.025)	0.763 SL (0.025)
Methyl tert-butyl ether	0.02	ND (0.005)	NA	NA	ND,SL (0.02)	ND,SL (0.05)	ND,SL (0.025)	ND,SL (0.0025)	ND,SL (0.1)	ND,SL (0.025)	ND,SL (0.025)	ND,SL (0.025)
Toluene	1	ND (0.025)	NA	NA	0.219 SL (0.02)	0.235 SL (0.05)	0.243 SL (0.025)	0.0936 SL (0.0025)	0.251 SL (0.1)	0.342 SL (0.025)	0.328 SL (0.025)	0.292 SL (0.025)
1,2,4-Trimethylbenzene	0.53	0.0195 (0.005)	NA	NA	1.11 SL (0.04)	1.59 SL (0.1)	1.39 SL (0.05)	0.103 SL (0.005)	1.38 SL (0.2)	0.873 SL (0.05)	1.16 SL (0.05)	0.677 SL (0.05)
1,3,5-Trimethylbenzene	0.53	ND (0.005)	NA	NA	0.337 SL (0.04)	0.513 SL (0.1)	0.444 SL (0.05)	0.0624 SL (0.005)	0.425 SL (0.2)	0.258 SL (0.05)	0.378 SL (0.05)	0.208 SL (0.05)
Xylenes (total)	10	0.0344 (0.015)	NA	NA	6.03 SL (0.02)	6.74 SL (0.05)	7.43 SL (0.025)	0.243 SL (0.0025)	8.1 SL (0.1)	4.29 SL (0.025)	4.29 SL (0.025)	3.58 SL (0.025)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00005)	NA	NA	0.000199 SL (0.00008)	ND,SL (0.00067)	0.0015 SL (0.000083)	0.0000534 J,SL (0.000083)	0.000372 SL (0.000083)	0.00544 SL (0.0008)	0.009 SL (0.00077)	0.00278 SL (0.00008)
Benzo(a)anthracene	0.0039	ND (0.00005)	NA	NA	ND,SL (0.00004)	ND,SL (0.00033)	0.0000314 J,SL (0.000042)	ND,SL (0.000042)	0.000081 SL (0.000042)	ND,SL (0.0004)	ND,SL (0.00038)	0.0000471 SL (0.00004)
Benzo(a)pyrene	0.0002	ND (0.00005)	NA	NA	ND,SL (0.00004)	ND,SL (0.00033)	ND,SL (0.000042)	ND,SL (0.000042)	0.0000667 SL (0.000042)	ND,SL (0.0004)	ND,SL (0.00038)	ND,SL (0.00004)
Benzo(b)fluoranthene	0.0012	ND (0.00005)	NA	NA	ND,SL (0.00004)	ND,SL (0.00033)	ND,SL (0.000042)	ND,SL (0.000042)	0.000203 SL (0.000042)	ND,SL (0.0004)	ND,SL (0.00038)	0.0000355 J,SL (0.00004)
Benzo(g,h,i)perylene	0.00026	ND (0.00005)	NA	NA	ND,SL (0.00008)	ND,SL (0.00067)	ND,SL (0.000083)	ND,SL (0.000083)	0.000239 SL (0.000083)	ND,SL (0.0008)	ND,SL (0.00077)	ND,SL (0.00008)
Chrysene	0.0019	ND (0.00005)	NA	NA	ND,SL (0.00008)	ND,SL (0.00067)	0.0000442 J,SL (0.000083)	ND,SL (0.000083)	0.0000867 SL (0.000083)	ND,SL (0.0008)	ND,SL (0.00077)	0.0000791 J,SL (0.00008)
Fluorene	1.9	0.000206 (0.00005)	NA	NA	0.00222 SL (0.00008)	0.00224 SL (0.00067)	0.00366 SL (0.000083)	0.000352 SL (0.000083)	0.00169 SL (0.000083)	0.0179 SL (0.0008)	0.0293 SL (0.00077)	0.0117 SL (0.0004)
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.00005)	ND,OE,SL (0.001)	ND,SL (0.00005)	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.000784 (0.00025)	NA	NA	0.117 SL (0.0032)	0.104 SL (0.0067)	0.12 SL (0.0033)	0.0152 SL (0.0017)	0.171 B,SL (0.0042)	0.182 SL (0.008)	0.174 SL (0.0077)	0.253 SL (0.008)
Phenanthrene	1.1	ND (0.00005)	NA	NA	0.00232 SL (0.00008)	0.00366 SL (0.00067)	0.0128 SL (0.0017)	0.0000625 J,SL (0.000083)	0.00314 B,SL (0.000083)	0.0299 SL (0.0008)	0.0759 SL (0.00077)	0.0241 SL (0.008)
Pyrene	0.13	0.000264 (0.00005)	NA	NA	0.000205 SL (0.00008)	ND,SL (0.00067)	0.000809 SL (0.000083)	ND,SL (0.000083)	0.000151 SL (0.000083)	0.00156 SL (0.0008)	0.00295 SL (0.00077)	0.000843 SL (0.00008)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.002)	ND,SL (0.002)	ND,SL (0.002)	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-237	S-237	S-239	S-239	S-239	S-239	S-239	S-239	S-239	S-239	S-239
Field Sample ID	Groundwater MSC	S-237_20230426SL	S-237_20230531_SL	S-239_12142012	S-239_06_17_2013	S-239~JB68176	S-239-20160817-WG	S-239-20161013-WG	S-239_20180125	S-239-20180402	S-239_20181128	S-239-20190118-WG
Sample Date	Used Aquifer	4/26/2023	5/31/2023	12/14/2012	6/17/2013	5/29/2014	8/17/2016	10/13/2016	1/25/2018	4/2/2018	11/28/2018	1/18/2019
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	8.02 SL (0.025)	10.2 SL (0.05)	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	0.0251 (0.001)
Cumene	3.5	ND,SL (0.05)	0.0323 SL (0.025)	NA	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	0.00372 (0.001)
1,2-Dibromoethane	0.00005	ND,SL (0.00002)	ND,SL (0.00002)	NA	ND (0.00002)	ND (0.00002)	ND (0.00001)	ND (0.00001)	NA	NA	NA	ND (0.00001)
1,2-Dichloroethane	0.005	ND,SL (0.05)	ND,SL (0.025)	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	ND (0.001)
Ethyl Benzene	0.7	0.743 SL (0.05)	0.881 SL (0.025)	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	0.0673 (0.001)
Methyl tert-butyl ether	0.02	ND,SL (0.05)	ND,SL (0.025)	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	ND (0.001)
Toluene	1	0.257 SL (0.05)	0.327 SL (0.025)	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	0.0219 (0.001)
1,2,4-Trimethylbenzene	0.53	0.72 SL (0.1)	0.828 SL (0.05)	NA	0.007 (0.002)	0.00095 J (0.002)	0.00226 (0.001)	ND (0.001)	NA	NA	NA	0.0867 (0.001)
1,3,5-Trimethylbenzene	0.53	0.224 SL (0.1)	0.253 SL (0.05)	NA	0.0023 (0.002)	0.00035 J (0.002)	ND (0.001)	ND (0.001)	NA	NA	NA	0.0288 (0.001)
Xylenes (total)	10	3.49 SL (0.05)	4.25 SL (0.025)	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.005)	0.196 (0.003)
Semivolatile Organic Compounds												
Anthracene	0.066	0.00633 SL (0.0037)	0.00343 SL (0.000083)	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(a)anthracene	0.0039	0.0000357 J,SL (0.000037)	0.000037 J,SL (0.000042)	NA	0.00018 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(a)pyrene	0.0002	ND,SL (0.000037)	ND,SL (0.000042)	NA	0.000193 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(b)fluoranthene	0.0012	ND,SL (0.000037)	ND,SL (0.000042)	NA	0.000242 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.00026	ND,SL (0.000074)	ND,SL (0.000083)	NA	0.00018 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Chrysene	0.0019	0.0000591 J,SL (0.000074)	0.0000592 J,SL (0.000083)	NA	0.000241 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Fluorene	1.9	0.0193 SL (0.0037)	0.02 SL (0.0083)	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Naphthalene	0.1	0.168 SL (0.0074)	0.225 B,SL (0.0083)	NA	ND (0.0001)	ND (0.0001)	0.000739 (0.00025)	ND (0.00025)	NA	NA	NA	NA
Phenanthrene	1.1	0.0438 SL (0.0037)	0.0426 B,SL (0.0083)	NA	0.000195 (0.0001)	ND (0.0001)	0.000119 (0.00005)	ND (0.00005)	NA	NA	NA	NA
Pyrene	0.13	0.0012 SL (0.000074)	0.000862 SL (0.000083)	NA	0.000323 (0.0001)	ND (0.0001)	0.0000656 (0.00005)	ND (0.00005)	NA	NA	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	ND (0.003)	ND (0.003)	0.0037 (0.003)	ND (0.002)	ND (0.002)	NA	NA	NA	NA

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-239	S-240	S-240	S-242	S-242	S-243	S-243	S-243	S-243	S-243	S-243
Field Sample ID	Groundwater MSC	S-239_20190423	40_BASE_GRAB_20191213	S-240_CSIA_20191213	S-242-20160818-WG	S-242-20161011-WG	S-243_12142012	S-243_06_17_2013	S-243 DUP_06_17_2013	S-243	S-243-20160817-WG	S-243-20161013-WG
Sample Date	Used Aquifer	4/23/2019	12/13/2019	12/13/2019	8/18/2016	10/11/2016	12/14/2012	6/17/2013	6/17/2013	5/21/2014	8/17/2016	10/13/2016
Comments	(TDS ≤ 2500)								Field Duplicate			
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	8.24663 (0.072)	8.48 (0.05)	1.64 (0.025)	0.582 (0.005)	NA	NA	NA	NA	NA	NA
Cumene	3.5	NA	0.01727 (0.0006)	NA	ND (0.025)	0.0101 (0.005)	NA	ND (0.002)	ND (0.002)	0.0023 (0.001)	ND (0.001)	ND (0.001)
1,2-Dibromoethane	0.00005	NA	ND (0.00271)	NA	ND (0.00001)	ND (0.00001)	NA	ND (0.00002)	ND (0.00002)	ND (0.00002)	ND (0.00001)	ND (0.00001)
1,2-Dichloroethane	0.005	NA	ND (0.00135)	NA	ND (0.025)	ND (0.005)	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	ND (0.001)	0.5069 (0.0241)	0.511 (0.05)	0.675 (0.025)	0.311 (0.005)	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	0.02	ND (0.001)	5.23161 (0.018)	NA	ND (0.025)	ND (0.005)	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)
Toluene	1	ND (0.001)	0.29678 (0.01811)	0.296 (0.05)	0.175 (0.125)	0.118 (0.025)	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	0.53	NA	0.28301 (0.02409)	NA	0.46 (0.025)	0.278 (0.005)	NA	0.0028 (0.002)	0.0061 (0.002)	0.0634 (0.002)	0.00876 (0.001)	0.0093 (0.001)
1,3,5-Trimethylbenzene	0.53	NA	0.08104 (0.024)	NA	0.159 (0.025)	0.111 (0.005)	NA	0.00041 J (0.002)	0.0009 J (0.002)	0.0138 (0.002)	0.00179 (0.001)	0.0029 (0.001)
Xylenes (total)	10	ND (0.005)	1.81679 J (0.02419)	1.83 (0.15)	1.46 (0.075)	1.13 (0.015)	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	0.000287 (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Benzo(a)anthracene	0.0039	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	0.00122 (0.0001)	0.000479 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Benzo(a)pyrene	0.0002	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	0.00112 (0.0001)	0.000467 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Benzo(b)fluoranthene	0.0012	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	0.00129 (0.0001)	0.000538 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	0.00085 (0.0001)	0.000375 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Chrysene	0.0019	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	0.0014 (0.0001)	0.000568 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Fluorene	1.9	NA	NA	NA	0.000467 (0.00005)	0.00014 (0.00005)	NA	0.000152 (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	ND,OE (0.00005)	ND (0.00005)	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)
Naphthalene	0.1	NA	0.14574 (0.06048)	NA	0.12 (0.005)	0.0101 (0.00025)	NA	ND (0.0001)	ND (0.0001)	0.00562 (0.001)	ND (0.00025)	0.00057 (0.00025)
Phenanthrene	1.1	NA	NA	NA	0.000678 (0.00005)	ND (0.00005)	NA	0.00116 (0.0001)	0.00044 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Pyrene	0.13	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	0.00183 (0.0001)	0.000745 (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	ND (0.002)	ND (0.002)	0.0017 J (0.003)	ND (0.003)	ND (0.003)	0.0015 J (0.003)	ND (0.002)	ND (0.002)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:
ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-243	S-243	S-243	S-243	S-243	S-244	S-244	S-244	S-244	S-245	S-245
Field Sample ID	Groundwater MSC	S-243_20180125	S-243-20180402	S-243_20181128	S-243-20190118-WG	S-243_20190423	S-244_06_13_2013	S-244_06_14_2013	S-244-20160815	S-244-20161011-WG	S-245_06_14_2013	S-245-HS-20160830-WG
Sample Date	Used Aquifer	1/25/2018	4/2/2018	11/28/2018	1/18/2019	4/23/2019	6/13/2013	6/14/2013	8/15/2016	10/11/2016	6/14/2013	8/30/2016
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.0006 J (0.001)	ND (0.001)	ND (0.001)	0.0222 (0.001)	ND (0.001)	0.223 (0.005)	0.0021 (0.001)	0.00249 (0.001)	ND (0.001)	0.164 (0.001)	0.432 (0.1)
Cumene	3.5	NA	NA	NA	0.00467 (0.001)	NA	0.0147 (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	0.0113 (0.002)	0.0192 (0.001)
1,2-Dibromoethane	0.00005	NA	NA	NA	ND (0.00001)	NA	ND (0.00002)	ND (0.00002)	ND (0.00001)	ND (0.00001)	ND (0.00002)	ND (0.00001)
1,2-Dichloroethane	0.005	NA	NA	NA	ND (0.001)	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.01 (0.001)	0.003 (0.001)	0.0004 J (0.001)	0.0755 (0.001)	0.001 J (0.001)	0.156 (0.001)	0.0028 (0.001)	0.00107 (0.001)	ND (0.001)	0.198 (0.001)	0.533 (0.1)
Methyl tert-butyl ether	0.02	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Toluene	1	0.001 (0.001)	ND (0.001)	ND (0.001)	0.0232 (0.001)	ND (0.001)	0.0628 (0.001)	0.0023 (0.001)	ND (0.005)	ND (0.005)	0.0359 (0.001)	0.0597 (0.005)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	0.106 (0.001)	NA	0.133 (0.002)	0.007 (0.002)	ND (0.001)	ND (0.001)	0.405 (0.01)	0.282 (0.1)
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	0.0353 (0.001)	NA	0.0406 (0.002)	0.0023 (0.002)	ND (0.001)	ND (0.001)	0.112 (0.002)	0.0876 (0.001)
Xylenes (total)	10	0.014 (0.001)	0.004 (0.001)	ND (0.005)	0.214 (0.003)	0.002 J (0.005)	0.387 (0.001)	0.0183 (0.001)	ND (0.003)	ND (0.003)	0.49 (0.005)	0.631 (0.3)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	0.0000566 (0.00005)	0.000155 (0.0001)	0.000466 (0.0001)
Benzo(a)anthracene	0.0039	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(a)pyrene	0.0002	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(b)fluoranthene	0.0012	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Chrysene	0.0019	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Fluorene	1.9	NA	NA	NA	NA	NA	0.000469 (0.0001)	ND (0.0001)	ND (0.00005)	0.000332 (0.00005)	0.000989 (0.0001)	0.00275 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	ND (0.0001)
Naphthalene	0.1	NA	NA	NA	NA	NA	0.00819 (0.001)	0.00106 (0.0001)	ND (0.00025)	0.000605 (0.00025)	0.00863 (0.001)	0.107 (0.0005)
Phenanthrene	1.1	NA	NA	NA	NA	NA	0.000171 (0.0001)	ND (0.0001)	ND (0.00005)	0.000543 (0.00005)	0.000264 (0.0001)	0.00387 (0.0001)
Pyrene	0.13	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	0.000258 (0.0001)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	NA	NA	ND (0.003)	ND (0.003)	ND (0.002)	ND (0.002)	ND (0.003)	ND (0.002)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
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J+ - Indicates an estimated value that is biased high
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
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TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-245	S-245	S-246	S-246	S-246	S-246	S-246	S-25	S-25	S-25	S-25
Field Sample ID	Groundwater MSC	S-245-20161013-WG	S-245-HS-20161013-WG	S-246_072210	S-246A_06_05_2013	S-246_06_17_2013	S-246-20160816-WG	S-246-20161011-WG	S-25~11/16/2000	S-25~11/14/2001	S-25~11/13/2002	S-25~11/13/2003
Sample Date	Used Aquifer	10/13/2016	10/13/2016	7/22/2010	6/5/2013	6/17/2013	8/16/2016	10/11/2016	11/16/2000	11/14/2001	11/13/2002	11/13/2003
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.45 (0.025)	0.378 (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.0175 (0.001)	ND (0.001)	NA	NA	NA	NA
Cumene	3.5	0.0334 (0.001)	0.0315 (0.005)	ND (0.002)	ND (0.002)	ND (0.002)	0.00436 (0.001)	ND (0.001)	NA	NA	NA	NA
1,2-Dibromoethane	0.00005	ND (0.00001)	ND (0.00001)	ND (0.000029)	ND (0.00002)	ND (0.00002)	ND (0.00001)	ND (0.00001)	NA	NA	NA	NA
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	NA
Ethyl Benzene	0.7	0.723 (0.025)	0.576 (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.0165 (0.001)	ND (0.001)	NA	NA	NA	NA
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	NA
Toluene	1	0.0802 (0.005)	0.0662 (0.025)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	NA	NA	NA	NA
1,2,4-Trimethylbenzene	0.53	0.488 (0.025)	0.418 (0.005)	ND (0.002)	ND (0.002)	ND (0.002)	0.0455 (0.001)	0.0018 (0.001)	NA	NA	NA	NA
1,3,5-Trimethylbenzene	0.53	0.164 (0.001)	0.152 (0.005)	ND (0.002)	ND (0.002)	ND (0.002)	0.0141 (0.001)	ND (0.001)	NA	NA	NA	NA
Xylenes (total)	10	0.888 (0.075)	0.678 (0.015)	ND (0.001)	ND (0.001)	0.00024 J (0.001)	0.0437 (0.003)	ND (0.003)	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	0.066	0.00045 (0.0001)	0.00031 (0.0001)	NA	ND (0.0001)	ND (0.001)	0.0000941 (0.00005)	0.0000609 (0.00005)	NA	NA	NA	NA
Benzo(a)anthracene	0.0039	ND (0.0001)	ND (0.0001)	NA	ND (0.0001)	ND (0.001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(a)pyrene	0.0002	ND (0.0001)	ND (0.0001)	NA	ND (0.0001)	ND (0.001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(b)fluoranthene	0.0012	ND (0.0001)	ND (0.0001)	NA	ND (0.0001)	ND (0.001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	ND (0.0001)	NA	ND (0.0001)	ND (0.001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Chrysene	0.0019	ND (0.0001)	ND (0.0001)	ND (0.005)	ND (0.0001)	ND (0.001)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Fluorene	1.9	0.00247 (0.0001)	0.00226 (0.0001)	ND (0.005)	0.000173 (0.0001)	ND (0.001)	0.000389 (0.00005)	0.00015 (0.00005)	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.0001)	ND (0.0001)	NA	NA	NA	ND (0.00005)	ND (0.00005)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.002)
Naphthalene	0.1	0.127 (0.0005)	0.0906 (0.0005)	ND (0.005)	0.000492 (0.0001)	ND (0.001)	0.00783 (0.00025)	0.000525 B (0.00025)	NA	NA	NA	NA
Phenanthrene	1.1	0.00344 (0.0001)	0.00274 (0.0001)	ND (0.005)	0.00017 (0.0001)	ND (0.001)	0.000435 (0.00005)	0.000146 (0.00005)	NA	NA	NA	NA
Pyrene	0.13	0.000165 (0.0001)	0.000221 (0.0001)	ND (0.005)	ND (0.0001)	ND (0.001)	ND (0.00005)	0.0000737 (0.00005)	NA	NA	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	0.055	0.0146	NA	NA
Lead (Dissolved)	0.005	ND (0.002)	ND (0.002)	ND (0.000001)	ND (0.003)	ND (0.003)	ND (0.002)	ND (0.002)	NA	NA	NA	NA

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XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-25	S-25	S-25	S-25	S-25	S-25	S-25	S-25	S-25	S-255	S-255
Field Sample ID	Groundwater MSC	S-25_11_8_2005	S-25~11/30/2006	S-25~12/13/2007	AOI3_S-25_121515	S-25-20160512	S-25-20170522	S_25_20180626	S-25 DUP_20180626	S-25_20190709	S-255_06/23/2009	S-255_091709
Sample Date	Used Aquifer	11/8/2005	11/30/2006	12/13/2007	12/15/2015	5/12/2016	5/22/2017	6/26/2018	6/26/2018	7/9/2019	6/23/2009	9/17/2009
Comments	(TDS ≤ 2500)								Field Duplicate			
Volatile Organic Compounds												
Benzene	0.005	NA	NA	NA	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	0.047 (0.001)
Cumene	3.5	NA	NA	NA	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.005)	NA	0.002 (0.002)
1,2-Dibromoethane	0.00005	NA	NA	NA	ND (0.00002)	ND (0.000029)	ND (0.000029)	ND (0.00001)	ND (0.00001)	ND (0.000028)	NA	ND (0.00003)
1,2-Dichloroethane	0.005	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	NA	ND (0.001)
Ethyl Benzene	0.7	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	0.024 (0.001)
Methyl tert-butyl ether	0.02	NA	NA	NA	0.00048 J (0.001)	ND (0.001)	ND (0.001)	0.00209 (0.001)	0.00209 (0.001)	ND (0.001)	NA	ND (0.001)
Toluene	1	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	0.01 (0.001)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.005)	NA	NA
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.005)	NA	NA
Xylenes (total)	10	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.003)	ND (0.005)	NA	0.037 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA
Benzo(a)anthracene	0.0039	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA
Benzo(a)pyrene	0.0002	NA	NA	NA	ND (0.00005)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA
Benzo(b)fluoranthene	0.0012	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	NA
Chrysene	0.0019	NA	NA	NA	ND (0.0001)	ND (0.0005)	0.0001 J (0.0005)	ND (0.00005)	ND (0.00005)	0.0001 J (0.0005)	NA	ND (0.005)
Fluorene	1.9	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	ND (0.005)
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00025)	ND (0.00025)	ND (0.0005)	NA	ND (0.005)
Phenanthrene	1.1	NA	NA	NA	ND (0.0001)	ND (0.0005)	0.0001 J (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	NA	ND (0.005)
Pyrene	0.13	NA	NA	NA	ND (0.0001)	ND (0.0005)	0.0001 J (0.0005)	ND (0.00005)	ND (0.00005)	0.0002 J (0.0005)	NA	ND (0.005)
Metals												
Lead	0.005	ND (0.01)	ND	ND	NA	NA	NA	NA	NA	NA	ND (0.001)	NA
Lead (Dissolved)	0.005	NA	NA	NA	ND (0.003)	ND (0.001)	0.00021 J (0.001)	ND (0.002)	ND (0.002)	ND (0.003)	NA	ND (0.000001)

Notes:
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2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

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J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-255	S-255	S-255	S-255	S-256	S-256	S-256	S-256	S-257	S-257	S-257
Field Sample ID	Groundwater MSC	S-255_120909	S-255_072012	S-255~JB68176	S-255-20141209	NEW-1_091407	S-256_072012	S-256	S-256-20141212	NEW-3_091407	S-257_071912	S-257~JB67921
Sample Date	Used Aquifer	12/9/2009	7/20/2012	5/29/2014	12/9/2014	9/14/2007	7/20/2012	5/28/2014	12/12/2014	9/14/2007	7/19/2012	5/27/2014
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.079 (0.001)	0.033 (0.001)	ND (0.0005)	0.00023 J (0.0005)	1.6 (0.02)	0.027 (0.005)	0.0128 (0.0005)	0.0072 (0.0005)	0.99 (0.02)	0.11 (0.005)	0.048 (0.0005)
Cumene	3.5	0.007 (0.002)	0.003 (0.002)	0.0012 (0.001)	0.00065 J (0.001)	NA	0.043 (0.01)	0.0391 (0.001)	0.0328 (0.001)	NA	0.048 (0.01)	0.0701 (0.001)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000029)	ND (0.000024)	ND (0.00002)	NA	ND (0.000029)	ND (0.00002)	ND (0.00002)	NA	ND (0.000029)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	ND (0.005)	ND (0.001)	ND (0.001)	NA	ND (0.005)	ND (0.001)
Ethyl Benzene	0.7	0.035 (0.001)	0.001 (0.001)	ND (0.001)	ND (0.001)	0.46 (0.005)	0.16 (0.005)	0.16 (0.001)	0.0897 (0.001)	1.1 (0.02)	0.048 (0.005)	0.0335 (0.001)
Methyl tert-butyl ether	0.02	0.004 (0.001)	0.0009 J (0.001)	ND (0.001)	ND (0.001)	0.11 (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.02)	0.003 J (0.005)	0.003 (0.001)
Toluene	1	0.006 (0.001)	0.001 (0.001)	ND (0.001)	ND (0.001)	0.11 (0.005)	0.015 (0.005)	0.0076 (0.001)	0.004 (0.001)	0.24 (0.02)	0.031 (0.005)	0.0237 (0.001)
1,2,4-Trimethylbenzene	0.53	NA	0.001 J (0.002)	0.00023 J (0.002)	ND (0.002)	NA	0.54 (0.01)	0.393 (0.02)	0.199 (0.008)	NA	0.059 (0.01)	0.0011 J (0.002)
1,3,5-Trimethylbenzene	0.53	NA	ND (0.002)	ND (0.002)	ND (0.002)	NA	0.19 (0.01)	0.118 (0.002)	0.0771 (0.002)	NA	0.067 (0.01)	0.0055 (0.002)
Xylenes (total)	10	0.07 (0.001)	0.001 (0.001)	ND (0.001)	ND (0.001)	1.6 (0.005)	0.097 (0.005)	0.232 (0.001)	0.2 (0.001)	2.2 (0.02)	0.014 (0.005)	0.0054 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	0.0002 J (0.0005)	0.000503 (0.0001)	0.000588 (0.0001)	NA	ND (0.005)	ND (0.0001)
Benzo(a)anthracene	0.0039	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.005)	ND (0.0001)
Benzo(a)pyrene	0.0002	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.005)	ND (0.0001)
Benzo(b)fluoranthene	0.0012	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.005)	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.005)	ND (0.0001)
Chrysene	0.0019	ND (0.005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	ND (0.005)	ND (0.0001)
Fluorene	1.9	ND (0.005)	0.0003 J (0.0005)	ND (0.0001)	ND (0.0001)	NA	0.001 (0.0005)	0.0024 (0.0001)	0.00279 (0.0001)	NA	0.002 J (0.005)	0.00114 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.007 (0.005)	0.0003 J (0.0005)	0.000166 (0.0001)	ND (0.0001)	NA	0.042 (0.0005)	0.0496 (0.001)	0.0433 (0.001)	NA	0.12 (0.005)	0.012 (0.001)
Phenanthrene	1.1	ND (0.005)	0.0004 J (0.0005)	0.000116 (0.0001)	ND (0.0001)	NA	0.002 (0.0005)	0.00352 (0.0001)	0.00494 (0.0001)	NA	0.002 J (0.005)	0.000934 (0.0001)
Pyrene	0.13	ND (0.005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA	0.0001 J (0.0005)	0.000306 (0.0001)	0.000351 (0.0001)	NA	ND (0.005)	ND (0.0001)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.000001)	ND (0.001)	0.0041 (0.003)	ND (0.003)	NA	0.000085 J (0.001)	0.0013 J (0.003)	ND (0.003)	NA	0.000044 J (0.001)	ND (0.003)

Notes:

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-257	S-258	S-258	S-258	S-258	S-259	S-259	S-259	S-259	S-259	S-259
Field Sample ID	Groundwater MSC	S-257-20141212	NEW-4_091407	S-258_071912	S-258~JB67921	S-258-20141215	NEW-5_091407	S-259_071912	S-259_040313	S-259~4/3/2013	S-259~JB67921	S-259-20141215
Sample Date	Used Aquifer	12/12/2014	9/14/2007	7/19/2012	5/27/2014	12/15/2014	9/14/2007	7/19/2012	4/3/2013	4/3/2013	5/27/2014	12/15/2014
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.0397 (0.0005)	1.7 (0.05)	0.06 (0.005)	0.243 (0.005)	0.00038 J (0.0005)	1.6 (0.02)	0.064 (0.005)	0.707 (0.005)	NA	0.502 (0.01)	0.0064 (0.0005)
Cumene	3.5	0.0563 (0.001)	NA	0.01 J (0.01)	0.0127 (0.001)	0.0024 (0.001)	NA	0.026 (0.01)	0.0415 (0.01)	NA	0.0434 (0.002)	0.0107 (0.001)
1,2-Dibromoethane	0.00005	ND (0.00002)	NA	ND (0.000029)	ND (0.00002)	ND (0.00002)	NA	ND (0.000029)	ND (0.00002)	NA	ND (0.00002)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.001)	NA	ND (0.005)	ND (0.001)	ND (0.001)	NA	ND (0.005)	ND (0.005)	NA	ND (0.002)	ND (0.001)
Ethyl Benzene	0.7	0.0224 (0.001)	1.2 (0.05)	0.023 (0.005)	0.0861 (0.001)	ND (0.001)	0.77 (0.02)	0.023 (0.005)	0.122 (0.005)	NA	0.0923 (0.002)	0.0061 (0.001)
Methyl tert-butyl ether	0.02	0.0022 (0.001)	0.009 (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	0.02 (0.02)	ND (0.005)	0.0028 J (0.005)	NA	ND (0.002)	ND (0.001)
Toluene	1	0.016 (0.001)	0.12 (0.005)	0.003 J (0.005)	0.0298 (0.001)	0.00075 J (0.001)	0.094 (0.02)	0.014 (0.005)	0.0459 (0.005)	NA	0.027 (0.002)	0.0016 (0.001)
1,2,4-Trimethylbenzene	0.53	0.0011 J (0.002)	NA	0.003 J (0.01)	0.0116 (0.002)	ND (0.002)	NA	ND (0.01)	0.0031 J (0.01)	NA	0.0021 J (0.004)	0.00027 J (0.002)
1,3,5-Trimethylbenzene	0.53	0.0031 (0.002)	NA	ND (0.01)	0.005 (0.002)	ND (0.002)	NA	0.012 (0.01)	0.0103 (0.01)	NA	0.005 (0.004)	0.00051 J (0.002)
Xylenes (total)	10	0.0042 (0.001)	1.7 (0.05)	0.017 (0.005)	0.0366 (0.001)	ND (0.001)	0.67 (0.02)	0.009 (0.005)	0.0212 (0.005)	NA	0.0152 (0.002)	0.0022 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.0001)	NA	ND (0.005)	ND (0.0001)	ND (0.0001)	NA	ND (0.005)	0.000221 (0.0001)	NA	0.000373 (0.0001)	0.000227 (0.0001)
Benzo(a)anthracene	0.0039	ND (0.0001)	NA	ND (0.005)	ND (0.0001)	0.00011 (0.0001)	NA	ND (0.005)	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)
Benzo(a)pyrene	0.0002	ND (0.0001)	NA	ND (0.005)	ND (0.0001)	0.000116 (0.0001)	NA	ND (0.005)	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)
Benzo(b)fluoranthene	0.0012	ND (0.0001)	NA	ND (0.005)	ND (0.0001)	0.000167 (0.0001)	NA	ND (0.005)	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	NA	ND (0.005)	ND (0.0001)	ND (0.0001)	NA	ND (0.005)	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)
Chrysene	0.0019	ND (0.0001)	NA	ND (0.005)	ND (0.0001)	0.000135 (0.0001)	NA	ND (0.005)	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)
Fluorene	1.9	0.00102 (0.0001)	NA	ND (0.005)	0.000278 (0.0001)	0.000194 (0.0001)	NA	0.004 J (0.005)	0.00209 (0.0001)	NA	0.00318 (0.0001)	0.00307 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.0097 (0.001)	NA	ND (0.005)	0.0109 (0.001)	ND (0.0001)	NA	0.014 (0.005)	0.0184 (0.001)	NA	0.0142 (0.001)	ND (0.0001)
Phenanthrene	1.1	0.000909 (0.0001)	NA	ND (0.005)	0.000328 (0.0001)	0.000417 (0.0001)	NA	0.005 J (0.005)	0.00263 (0.0001)	NA	0.0036 (0.0001)	0.00276 (0.0001)
Pyrene	0.13	ND (0.0001)	NA	ND (0.005)	ND (0.0001)	0.000249 (0.0001)	NA	ND (0.005)	ND (0.0001)	NA	ND (0.0001)	0.000198 (0.0001)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	0.0015 J (0.003)	NA	0.00063 J (0.001)	ND (0.003)	ND (0.003)	NA	0.00052 J (0.001)	NA	ND (0.001)	ND (0.003)	ND (0.003)

Notes:

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-26	S-26	S-26	S-26	S-26	S-26	S-260	S-260	S-260	S-260	S-263
Field Sample ID	Groundwater MSC	S-26~10/21/2004	S26-050205	S-26~11/29/2006	S-26_06_12_2013	S-26-20160810-WG	S-26-20161013-WG	NEW-6_091407	S-260_072012	S-260~JB67921	S-260-20141212	S-263_06/23/2009
Sample Date	Used Aquifer	10/21/2004	5/2/2005	11/29/2006	6/12/2013	8/10/2016	10/13/2016	9/14/2007	7/20/2012	5/27/2014	12/12/2014	6/23/2009
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	ND (0.005)	ND (0.0005)	ND (0.001)	ND (0.005)	ND (0.001)	2 (0.05)	0.028 (0.001)	0.0213 (0.0005)	0.0193 (0.0005)	NA
Cumene	3.5	ND (0.005)	ND (0.005)	NA	ND (0.002)	ND (0.005)	ND (0.001)	NA	0.027 (0.002)	0.0114 (0.001)	0.0154 (0.001)	NA
1,2-Dibromoethane	0.00005	ND (0.00002)	ND (0.000029)	NA	ND (0.00002)	ND (0.00001)	ND (0.00001)	NA	ND (0.000029)	ND (0.00002)	ND (0.00002)	NA
1,2-Dichloroethane	0.005	ND (0.005)	ND (0.005)	NA	ND (0.001)	ND (0.005)	ND (0.001)	NA	ND (0.001)	ND (0.001)	ND (0.001)	NA
Ethyl Benzene	0.7	NA	ND (0.005)	ND (0.0008)	ND (0.001)	ND (0.005)	ND (0.001)	0.067 (0.005)	0.007 (0.001)	0.00068 J (0.001)	0.00058 J (0.001)	NA
Methyl tert-butyl ether	0.02	0.039	0.032 (0.005)	NA	0.0022 (0.001)	ND (0.005)	0.00225 (0.001)	0.1 (0.005)	0.088 (0.001)	0.00063 J (0.001)	0.00094 J (0.001)	NA
Toluene	1	NA	ND (0.005)	ND (0.0007)	ND (0.001)	ND (0.025)	ND (0.005)	0.1 (0.005)	0.01 (0.001)	0.0019 (0.001)	0.0022 (0.001)	NA
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	ND (0.002)	ND (0.005)	ND (0.001)	NA	0.001 J (0.002)	0.00038 J (0.002)	0.00039 J (0.002)	NA
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	ND (0.002)	ND (0.005)	ND (0.001)	NA	0.002 J (0.002)	0.00098 J (0.002)	0.0014 J (0.002)	NA
Xylenes (total)	10	NA	ND (0.005)	ND (0.0008)	ND (0.001)	ND (0.015)	ND (0.003)	0.034 (0.005)	0.012 (0.001)	0.004 (0.001)	0.0059 (0.001)	NA
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	ND (0.0001)	0.000109 (0.00005)	0.000092 (0.00005)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA
Benzo(a)anthracene	0.0039	NA	NA	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA
Benzo(a)pyrene	0.0002	NA	NA	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	0.0001 J (0.0005)	ND (0.0001)	ND (0.0001)	NA
Benzo(b)fluoranthene	0.0012	NA	NA	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	0.0001 J (0.0005)	ND (0.0001)	ND (0.0001)	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	NA
Chrysene	0.0019	ND (0.00014)	ND (0.01)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	0.0001 J (0.0005)	ND (0.0001)	ND (0.0001)	NA
Fluorene	1.9	ND (0.01)	ND (0.01)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	0.0003 J (0.0005)	ND (0.0001)	ND (0.0001)	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA
Naphthalene	0.1	ND (0.005)	ND (0.01)	NA	ND (0.0001)	0.00039 (0.00025)	0.000587 (0.00025)	NA	0.0004 J (0.0005)	ND (0.0001)	ND (0.0001)	NA
Phenanthrene	1.1	ND (0.01)	ND (0.01)	NA	ND (0.0001)	ND (0.00005)	0.0000662 (0.00005)	NA	0.0003 J (0.0005)	ND (0.0001)	ND (0.0001)	NA
Pyrene	0.13	ND (0.01)	ND (0.01)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	0.0002 J (0.0005)	ND (0.0001)	ND (0.0001)	NA
Metals												
Lead	0.005	NA	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.001)
Lead (Dissolved)	0.005	ND (0.005)	NA	NA	ND (0.003)	ND (0.002)	ND (0.002)	NA	0.00015 J (0.001)	ND (0.003)	0.0024 J (0.003)	NA

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-263	S-263	S-263	S-263	S-263	S-27	S-27	S-27	S-278	S-278	S-279
Field Sample ID	Groundwater MSC	S-263_091609	S-263_120909	S-263_072312	S-263~JB68176	S-263-20141212	S-27	S27-050205	S-27-20161013-WG	S-278-20160818-WG	S-278-20161014-WG	S-279-20160818-WG
Sample Date	Used Aquifer	9/16/2009	12/9/2009	7/23/2012	5/29/2014	12/12/2014	10/21/2004	5/2/2005	10/13/2016	8/18/2016	10/14/2016	8/18/2016
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	2.6 (0.05)	3.3 (0.05)	1.8 (0.01)	0.661 (0.002)	1.53 (0.005)	ND (0.001)	ND (0.005)	ND (0.001)	0.762 SL (0.1)	0.766 SL (0.1)	0.802 SL (0.1)
Cumene	3.5	0.057 (0.01)	0.058 (0.01)	0.03 (0.02)	0.0297 (0.004)	0.0422 (0.01)	ND (0.005)	0.005 (0.005)	ND (0.001)	ND,SL (0.1)	ND,SL (0.1)	ND,SL (0.1)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000029)	ND (0.000029)	ND (0.00002)	0.000035 (0.00002)	ND (0.00002)	ND (0.000029)	ND (0.00001)	ND,SL (0.00001)	ND,SL (0.00001)	ND,SL (0.00001)
1,2-Dichloroethane	0.005	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.004)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.001)	ND,SL (0.1)	ND,SL (0.1)	ND,SL (0.1)
Ethyl Benzene	0.7	0.92 (0.005)	0.82 (0.005)	0.49 (0.01)	0.282 (0.004)	0.339 (0.01)	ND (0.005)	ND (0.005)	ND (0.001)	0.424 SL (0.1)	0.396 SL (0.1)	0.56 SL (0.1)
Methyl tert-butyl ether	0.02	0.12 (0.005)	0.15 (0.005)	0.037 (0.01)	0.0178 (0.004)	0.0616 (0.01)	ND (0.005)	ND (0.005)	ND (0.001)	ND,SL (0.1)	ND,SL (0.1)	ND,SL (0.1)
Toluene	1	0.11 (0.005)	0.1 (0.005)	0.037 (0.01)	0.0233 (0.004)	0.0854 (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND,SL (0.5)	ND,SL (0.5)	ND,SL (0.5)
1,2,4-Trimethylbenzene	0.53	NA	NA	0.46 (0.02)	0.331 (0.008)	0.317 (0.02)	NA	NA	ND (0.001)	1.03 SL (0.1)	0.714 SL (0.1)	0.318 SL (0.1)
1,3,5-Trimethylbenzene	0.53	NA	NA	0.14 (0.02)	0.124 (0.008)	0.161 (0.02)	NA	NA	ND (0.001)	0.495 SL (0.1)	0.334 SL (0.1)	0.127 SL (0.1)
Xylenes (total)	10	2 (0.005)	1.4 (0.005)	0.42 (0.01)	0.168 (0.004)	0.283 (0.01)	ND (0.01)	0.026 (0.005)	ND (0.003)	1.83 SL (0.3)	1.6 SL (0.3)	0.588 SL (0.3)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	0.002 (0.0005)	0.000419 (0.0001)	0.000907 (0.0001)	NA	NA	ND (0.00005)	0.0149 SL (0.0001)	ND,SL (0.00005)	ND,SL (0.00005)
Benzo(a)anthracene	0.0039	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND	NA	ND (0.00005)	0.00059 SL (0.0001)	0.000143 SL (0.00005)	0.000119 SL (0.00005)
Benzo(a)pyrene	0.0002	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND	NA	ND (0.00005)	0.00035 SL (0.0001)	0.000068 SL (0.00005)	0.0000852 SL (0.00005)
Benzo(b)fluoranthene	0.0012	NA	NA	0.0001 J (0.0005)	ND (0.0001)	ND (0.0001)	ND	NA	ND (0.00005)	0.00043 SL (0.0001)	0.000108 SL (0.00005)	0.000103 SL (0.00005)
Benzo(g,h,i)perylene	0.00026	NA	NA	0.0001 J (0.0005)	ND (0.0001)	ND (0.0001)	NA	NA	ND (0.00005)	0.000457 SL (0.0001)	0.0000999 SL (0.00005)	0.000144 SL (0.00005)
Chrysene	0.0019	ND (0.005)	ND (0.005)	0.0001 J (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.00014)	ND (0.01)	ND (0.00005)	0.00101 SL (0.0001)	0.000237 SL (0.00005)	0.000105 SL (0.00005)
Fluorene	1.9	0.036 (0.005)	0.016 (0.005)	0.008 (0.0005)	0.00291 (0.0001)	0.00449 (0.0001)	ND (0.01)	ND (0.01)	ND (0.00005)	0.0664 SL (0.002)	0.0122 SL (0.00005)	0.0041 SL (0.00005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	ND (0.00005)	0.000189 OE,SL (0.0001)	ND,SL (0.00005)	0.0000514 OE,SL (0.00005)
Naphthalene	0.1	0.31 (0.024)	0.23 (0.047)	0.15 (0.005)	0.0666 (0.001)	0.0878 (0.001)	ND (0.005)	0.014 (0.01)	ND (0.00025)	0.538 SL (0.01)	0.3 SL (0.005)	0.143 SL (0.005)
Phenanthrene	1.1	0.11 (0.005)	0.031 (0.005)	0.01 (0.0005)	0.0034 (0.0001)	0.00865 (0.001)	ND (0.01)	ND (0.01)	ND (0.00005)	0.106 SL (0.0001)	0.0291 SL (0.00005)	0.00669 SL (0.00005)
Pyrene	0.13	0.011 (0.005)	ND (0.005)	0.001 (0.0005)	0.000323 (0.0001)	0.000518 (0.0001)	ND (0.01)	ND (0.01)	ND (0.00005)	0.0151 SL (0.0001)	0.00343 SL (0.00005)	0.00125 SL (0.00005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	ND	ND (0.001)	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.000001)	ND (0.000001)	0.0023 (0.001)	ND (0.003)	ND (0.003)	ND (0.005)	NA	ND (0.002)	ND,SL (0.002)	ND,SL (0.002)	ND,SL (0.002)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-279	S-279	S-28	S-28	S-28	S-281	S-281	S-281	S-285	S-285	S-290
Field Sample ID	Groundwater MSC	S-279-20161011-WG	79_BASE_GRAB_20191213	S-28	S28-050405	S-28_06_13_2013	S-281_071510	AOI3_S-281_061215	AOI3_S-281_123015	AOI3_S-285_010716	AOI3-S-285-030916	S-290_070710
Sample Date	Used Aquifer	10/11/2016	12/13/2019	10/21/2004	5/4/2005	6/13/2013	7/15/2010	6/12/2015	12/30/2015	1/7/2016	3/9/2016	7/7/2010
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.632 SL (0.02)	0.9105 (0.018)	0.057	0.051 (0.005)	0.0053 (0.001)	ND (0.01)	0.0006 J (0.001)	ND (0.0005)	0.00027 J,SL (0.0005)	ND,SL (0.001)	0.003 (0.001)
Cumene	3.5	0.0401 SL (0.001)	0.0417 (0.0006)	0.0053	0.006 (0.005)	0.0096 (0.002)	0.22 (0.02)	0.0412 (0.001)	0.0567 (0.001)	0.0106 SL (0.001)	0.0065 SL (0.001)	ND (0.002)
1,2-Dibromoethane	0.00005	ND,SL (0.00001)	ND (0.00271)	ND (0.00002)	ND (0.000029)	ND (0.00002)	ND (0.000029)	0.000086 (0.00004)	ND (0.000019)	ND,SL (0.000019)	ND,SL (0.00004)	ND (0.000029)
1,2-Dichloroethane	0.005	ND,SL (0.001)	ND (0.00135)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.01)	ND (0.001)	ND (0.001)	ND,SL (0.001)	ND,SL (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.391 SL (0.02)	0.38873 (0.00602)	ND (0.005)	0.012 (0.005)	0.00034 J (0.001)	0.08 (0.01)	0.00046 J (0.001)	0.00048 J (0.001)	ND,SL (0.001)	ND,SL (0.001)	0.012 (0.001)
Methyl tert-butyl ether	0.02	ND,SL (0.001)	ND (0.00045)	0.18	0.27 (0.025)	0.0195 (0.001)	ND (0.01)	0.00042 J (0.001)	0.0027 (0.001)	ND,SL (0.001)	ND,SL (0.001)	ND (0.001)
Toluene	1	0.0722 SL (0.005)	0.06561 (0.00453)	ND (0.005)	ND (0.005)	0.00047 J (0.001)	ND (0.01)	0.0013 (0.001)	0.00026 J (0.001)	0.00028 J,SL (0.001)	ND,SL (0.001)	0.038 (0.001)
1,2,4-Trimethylbenzene	0.53	0.133 SL (0.001)	0.40167 (0.00602)	NA	NA	0.0029 (0.002)	1.2 (0.02)	0.0115 (0.001)	0.0026 (0.002)	0.00026 J,SL (0.002)	0.00094 J,SL (0.001)	0.033 (0.002)
1,3,5-Trimethylbenzene	0.53	0.064 SL (0.001)	0.16431 (0.006)	NA	NA	0.0004 J (0.002)	0.52 (0.02)	0.0149 (0.001)	0.0052 (0.002)	ND,SL (0.002)	ND,SL (0.001)	0.009 (0.002)
Xylenes (total)	10	0.4 SL (0.003)	0.62957 J (0.00605)	ND (0.01)	0.013 (0.005)	0.00094 J (0.001)	0.13 (0.01)	0.0021 J (0.003)	ND (0.001)	0.00061 J,SL (0.001)	ND,SL (0.003)	0.099 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	0.00293 SL (0.00005)	NA	NA	NA	ND (0.00011)	NA	0.00012 (0.0001)	0.00017 (0.0001)	0.0022 SL (0.00011)	0.00022 SL (0.0001)	NA
Benzo(a)anthracene	0.0039	0.0000765 SL (0.00005)	NA	ND	NA	ND (0.00011)	NA	ND (0.0001)	ND (0.00005)	0.00135 SL (0.000055)	0.000047 J,SL (0.0001)	NA
Benzo(a)pyrene	0.0002	ND,SL (0.00005)	NA	ND	NA	ND (0.00011)	NA	ND (0.0001)	ND (0.00005)	0.000824 SL (0.000055)	0.000036 J,SL (0.0001)	NA
Benzo(b)fluoranthene	0.0012	ND,SL (0.00005)	NA	ND	NA	ND (0.00011)	NA	ND (0.0001)	ND (0.0001)	0.000755 SL (0.00011)	0.000035 J,SL (0.0001)	NA
Benzo(g,h,i)perylene	0.00026	ND,SL (0.00005)	NA	NA	NA	ND (0.00011)	NA	0.00002 J (0.0001)	ND (0.0001)	0.000585 SL (0.00011)	0.000022 J,SL (0.0001)	NA
Chrysene	0.0019	0.000111 SL (0.00005)	NA	ND (0.0007)	ND (0.01)	ND (0.00011)	ND (0.005)	ND (0.0001)	ND (0.0001)	0.00271 SL (0.00011)	0.00013 SL (0.0001)	ND (0.005)
Fluorene	1.9	0.0124 SL (0.00005)	NA	0.26	0.012 (0.01)	0.00979 (0.0011)	0.005 (0.005)	0.00059 (0.0001)	0.000775 (0.0001)	0.0164 SL (0.0011)	0.00024 SL (0.0001)	ND (0.005)
Indeno(1,2,3-cd)pyrene	0.0023	ND,SL (0.00005)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.136 SL (0.005)	0.21943 (0.01512)	ND (0.005)	0.012 (0.01)	ND (0.00011)	0.038 (0.005)	ND (0.0001)	ND (0.0001)	ND,SL (0.00011)	0.0011 SL (0.0001)	ND (0.005)
Phenanthrene	1.1	0.0332 SL (0.00005)	NA	0.55	0.026 (0.01)	0.0163 (0.0011)	ND (0.005)	0.00054 (0.0001)	0.000566 (0.0001)	0.0288 SL (0.0011)	0.00048 SL (0.0001)	ND (0.005)
Pyrene	0.13	0.00299 SL (0.00005)	NA	0.029	ND (0.01)	0.00331 (0.00011)	ND (0.005)	0.000095 J (0.0001)	0.000136 (0.0001)	0.00432 SL (0.00011)	0.00039 SL (0.0001)	ND (0.005)
Metals												
Lead	0.005	NA	NA	ND	ND (0.001)	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND,SL (0.002)	NA	ND (0.005)	NA	ND (0.003)	ND (0.000001)	ND (0.005)	ND (0.003)	ND,SL (0.003)	ND,SL (0.005)	ND (0.000001)

Notes:

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-290	S-290	S-291	S-291	S-291	S-291	S-291	S-30	S-30	S-307	S-307
Field Sample ID	Groundwater MSC	AOI3_S-290_061015	AOI3_S-290_121515	S-291_070710	AOI3_S-291_082313	AOI3_DUP_082313	AOI3_S-291_061115	AOI3_S-291_121515	S-30-20160819-WG	S-30-20161011-WG	S-307_071310	S-307_06_05_2013
Sample Date	Used Aquifer	6/10/2015	12/15/2015	7/7/2010	8/23/2013	8/23/2013	6/11/2015	12/15/2015	8/19/2016	10/11/2016	7/13/2010	6/5/2013
Comments	(TDS ≤ 2500)					Field Duplicate						
Volatile Organic Compounds												
Benzene	0.005	0.0011 (0.001)	ND (0.0005)	ND (0.01)	0.00037 J (0.001)	0.00048 J (0.001)	0.00099 J (0.001)	ND (0.0005)	ND,SL (0.005)	0.00311 SL (0.001)	ND (0.001)	ND (0.001)
Cumene	3.5	0.00024 J (0.001)	0.001 (0.001)	ND (0.02)	0.0015 J (0.002)	0.0015 J (0.002)	0.0037 (0.001)	ND (0.001)	0.0328 SL (0.005)	0.0247 SL (0.001)	ND (0.002)	ND (0.002)
1,2-Dibromoethane	0.00005	ND (0.00004)	ND (0.000019)	ND (0.000029)	ND (0.00002)	ND (0.00002)	0.000086 (0.00004)	ND (0.000019)	ND,SL (0.00001)	ND,SL (0.00001)	ND (0.000029)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.005)	ND,SL (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.00059 J (0.001)	ND (0.001)	ND (0.01)	ND (0.001)	ND (0.001)	0.00063 J (0.001)	ND (0.001)	ND,SL (0.005)	ND,SL (0.001)	ND (0.001)	ND (0.001)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	ND (0.01)	0.0012 (0.001)	0.00093 J (0.001)	0.002 (0.001)	0.00061 J (0.001)	0.019 SL (0.005)	0.0239 SL (0.001)	ND (0.001)	ND (0.001)
Toluene	1	0.0025 (0.001)	ND (0.001)	ND (0.01)	ND (0.001)	ND (0.001)	0.002 (0.001)	ND (0.001)	ND,SL (0.025)	ND,SL (0.005)	ND (0.001)	ND (0.001)
1,2,4-Trimethylbenzene	0.53	0.001 (0.001)	ND (0.002)	ND (0.02)	0.00025 J (0.002)	ND (0.002)	0.0013 (0.001)	ND (0.002)	ND,SL (0.005)	0.0102 SL (0.001)	ND (0.002)	ND (0.002)
1,3,5-Trimethylbenzene	0.53	0.00021 J (0.001)	ND (0.002)	ND (0.02)	ND (0.002)	ND (0.002)	0.00046 J (0.001)	ND (0.002)	ND,SL (0.005)	0.00602 SL (0.001)	ND (0.002)	ND (0.002)
Xylenes (total)	10	0.0033 (0.003)	ND (0.001)	ND (0.01)	0.00038 J (0.001)	0.00042 J (0.001)	0.0034 (0.003)	0.001 (0.001)	ND,SL (0.015)	0.00623 SL (0.003)	ND (0.001)	ND (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.0001)	ND (0.0001)	NA	0.000521 (0.0001)	0.000536 (0.0001)	0.00022 (0.0001)	0.000223 (0.0001)	ND,SL (0.0025)	ND,SL (0.0025)	NA	ND (0.0001)
Benzo(a)anthracene	0.0039	ND (0.0001)	ND (0.00005)	NA	ND (0.0001)	ND (0.0001)	0.000031 J (0.0001)	ND (0.00005)	ND,SL (0.0025)	ND,SL (0.0025)	NA	ND (0.0001)
Benzo(a)pyrene	0.0002	ND (0.0001)	ND (0.00005)	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND,SL (0.0025)	ND,SL (0.0025)	NA	ND (0.0001)
Benzo(b)fluoranthene	0.0012	ND (0.0001)	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND,SL (0.0025)	ND,SL (0.0025)	NA	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND,SL (0.0025)	ND,SL (0.0025)	NA	ND (0.0001)
Chrysene	0.0019	ND (0.0001)	ND (0.0001)	ND (0.005)	ND (0.0001)	ND (0.0001)	0.000014 J (0.0001)	ND (0.0001)	ND,SL (0.0025)	ND,SL (0.0025)	ND (0.005)	ND (0.0001)
Fluorene	1.9	ND (0.0001)	ND (0.0001)	ND (0.005)	0.00309 (0.0001)	0.00297 (0.0001)	0.0013 (0.0001)	0.0014 (0.0001)	0.139 SL (0.0025)	0.268 SL (0.0025)	ND (0.005)	0.000731 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	ND,SL (0.0025)	ND,SL (0.0025)	NA	NA
Naphthalene	0.1	0.00021 (0.0001)	ND (0.0001)	0.025 (0.005)	0.000785 (0.0001)	0.000752 (0.0001)	0.00046 (0.0001)	0.00398 (0.0001)	0.0298 SL (0.0125)	0.122 SL (0.0125)	ND (0.005)	ND (0.0001)
Phenanthrene	1.1	ND (0.0001)	ND (0.0001)	ND (0.005)	0.0019 (0.0001)	0.00184 (0.0001)	0.000067 J (0.0001)	0.000669 (0.0001)	0.311 SL (0.0025)	0.669 SL (0.0025)	ND (0.005)	ND (0.0001)
Pyrene	0.13	ND (0.0001)	ND (0.0001)	ND (0.005)	0.000416 (0.0001)	0.000398 (0.0001)	0.00021 (0.0001)	0.00023 (0.0001)	0.0294 SL (0.0025)	0.073 SL (0.0025)	ND (0.005)	ND (0.0001)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.005)	ND (0.006)	ND (0.000001)	ND (0.003)	ND (0.003)	ND (0.005)	ND (0.003)	ND,SL (0.002)	ND,SL (0.002)	ND (0.000001)	ND (0.003)

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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-307	S-307	S-307	S-31	S-310	S-310	S-312	S-312	S-312	S-312	S-32
Field Sample ID	Groundwater MSC	S-307-20160812-WG	S-307-20161004-WG	S-307-20161004-WG-DUP	S31-050205	S-310_070810	S-310_06_04_2013	S-312_070810	S-312_072312	S-312	S-312-20141208	S-32-20160819-WG
Sample Date	Used Aquifer	8/12/2016	10/4/2016	10/4/2016	5/2/2005	7/8/2010	6/4/2013	7/8/2010	7/23/2012	5/29/2014	12/8/2014	8/19/2016
Comments	(TDS ≤ 2500)			Field Duplicate								
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	ND (0.001)	ND (0.001)	0.053 (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0005)	ND (0.0005)	ND,SL (0.005)
Cumene	3.5	ND (0.001)	ND (0.001)	ND (0.001)	0.006 (0.005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND,SL (0.005)
1,2-Dibromoethane	0.00005	ND (0.00004)	ND (0.00004)	ND (0.00004)	ND (0.000028)	ND (0.000028)	ND (0.00002)	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.00002)	ND,SL (0.00001)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.005)
Ethyl Benzene	0.7	ND (0.001)	ND (0.001)	ND (0.001)	0.039 (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.005)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	ND (0.001)	0.17 (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0233 SL (0.005)
Toluene	1	ND (0.001)	ND (0.001)	ND (0.001)	0.04 (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.025)
1,2,4-Trimethylbenzene	0.53	ND (0.001)	ND (0.001)	ND (0.001)	NA	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	0.0024 (0.002)	ND (0.002)	ND,SL (0.005)
1,3,5-Trimethylbenzene	0.53	ND (0.001)	ND (0.001)	ND (0.001)	NA	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	0.0012 J (0.002)	ND (0.002)	ND,SL (0.005)
Xylenes (total)	10	ND (0.003)	ND (0.003)	ND (0.003)	0.15 (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0024 (0.001)	ND (0.001)	ND,SL (0.015)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	0.0001 (0.0001)	0.000097 J (0.0001)	NA	NA	ND (0.00011)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND,SL (0.003)
Benzo(a)anthracene	0.0039	NA	0.000026 J (0.0001)	0.000039 J (0.0001)	NA	NA	ND (0.00011)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	0.00548 SL (0.003)
Benzo(a)pyrene	0.0002	NA	0.0000084 J (0.0001)	0.0000078 J (0.0001)	NA	NA	ND (0.00011)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND,SL (0.003)
Benzo(b)fluoranthene	0.0012	NA	ND (0.0001)	ND (0.0001)	NA	NA	ND (0.00011)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND,SL (0.003)
Benzo(g,h,i)perylene	0.00026	NA	ND (0.0001)	ND (0.0001)	NA	NA	ND (0.00011)	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND,SL (0.003)
Chrysene	0.0019	NA	0.00004 J (0.0001)	0.0000096 J (0.0001)	NA	ND (0.049)	ND (0.00011)	ND (0.005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	0.00649 SL (0.003)
Fluorene	1.9	NA	0.00025 (0.0001)	0.00029 (0.0001)	NA	ND (0.049)	ND (0.00011)	ND (0.005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	0.164 SL (0.003)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND,SL (0.003)
Naphthalene	0.1	NA	0.00011 (0.0001)	0.00016 (0.0001)	NA	ND (0.049)	ND (0.00011)	ND (0.005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND,SL (0.015)
Phenanthrene	1.1	NA	0.000048 J (0.0001)	0.000035 J (0.0001)	NA	ND (0.049)	ND (0.00011)	ND (0.005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	0.439 SL (0.003)
Pyrene	0.13	NA	0.0001 J (0.0001)	0.000078 J (0.0001)	NA	ND (0.049)	ND (0.00011)	ND (0.005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	0.152 SL (0.003)
Metals												
Lead	0.005	NA	NA	NA	ND (0.001)	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.005)	ND (0.005)	ND (0.005)	NA	ND (0.000001)	ND (0.003)	ND (0.000001)	0.00032 J (0.001)	0.002 J (0.003)	0.0017 J (0.003)	ND,SL (0.002)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:
ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-32	S-329	S-329	S-329	S-329	S-34	S-35	S-35	S-35	S-36	S-361
Field Sample ID	Groundwater MSC	S-32-20161011-WG	S-329_102110	S-329_06_17_2013	S-329-20160817-WG	S-329-20161013-WG	S-34_06_14_2013	S-35-20160818-WG	S-35-20161012-WG	S-35-20161012-WG-DUP	S-36_06_14_2013	S-361_06_04_2013
Sample Date	Used Aquifer	10/11/2016	10/21/2010	6/17/2013	8/17/2016	10/13/2016	6/14/2013	8/18/2016	10/12/2016	10/12/2016	6/14/2013	6/4/2013
Comments	(TDS ≤ 2500)									Field Duplicate		
Volatile Organic Compounds												
Benzene	0.005	0.00265 SL (0.001)	0.32 (0.01)	0.0086 (0.001)	0.29 (0.05)	0.42 (0.01)	NA	ND (0.005)	ND (0.001)	ND (0.001)	0.288 (0.005)	0.0401 (0.001)
Cumene	3.5	0.00131 SL (0.001)	NA	ND (0.002)	ND (0.05)	0.0568 (0.01)	NA	ND (0.005)	ND (0.001)	ND (0.001)	0.0418 (0.002)	0.0301 (0.002)
1,2-Dibromoethane	0.00005	ND,SL (0.00001)	NA	ND (0.00002)	ND (0.00001)	ND (0.00001)	NA	ND (0.00001)	ND (0.00001)	ND (0.00001)	ND (0.00002)	ND (0.00002)
1,2-Dichloroethane	0.005	ND,SL (0.001)	NA	ND (0.001)	ND (0.05)	ND (0.01)	NA	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.00148 SL (0.001)	0.13 (0.001)	ND (0.001)	0.0617 (0.05)	0.1 (0.01)	NA	ND (0.005)	ND (0.001)	ND (0.001)	0.0369 (0.001)	0.0572 (0.001)
Methyl tert-butyl ether	0.02	0.0017 SL (0.001)	0.005 (0.001)	ND (0.001)	ND (0.05)	ND (0.01)	NA	ND (0.005)	ND (0.001)	ND (0.001)	0.0219 (0.001)	0.0106 (0.001)
Toluene	1	0.00778 SL (0.005)	0.11 (0.001)	ND (0.001)	ND (0.25)	ND (0.05)	NA	ND (0.025)	ND (0.005)	ND (0.005)	0.071 (0.001)	0.0019 (0.001)
1,2,4-Trimethylbenzene	0.53	0.00542 SL (0.001)	NA	0.00028 J (0.002)	ND (0.05)	ND (0.01)	NA	ND (0.005)	ND (0.001)	ND (0.001)	0.003 (0.002)	0.0405 (0.002)
1,3,5-Trimethylbenzene	0.53	0.00184 SL (0.001)	NA	ND (0.002)	ND (0.05)	ND (0.01)	NA	ND (0.005)	ND (0.001)	ND (0.001)	0.0555 (0.002)	0.0071 (0.002)
Xylenes (total)	10	0.0163 SL (0.003)	0.32 (0.001)	0.00035 J (0.001)	ND (0.15)	ND (0.03)	NA	ND (0.015)	ND (0.003)	ND (0.003)	0.121 (0.001)	0.0528 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	ND,SL (0.00005)	NA	ND (0.0001)	ND (0.00005)	0.000123 (0.00005)	NA	ND (0.00267)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(a)anthracene	0.0039	0.000513 SL (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	ND (0.00267)	ND (0.00005)	0.0000527 (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(a)pyrene	0.0002	0.000164 SL (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	ND (0.00267)	ND (0.00005)	0.0000684 (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(b)fluoranthene	0.0012	0.000182 SL (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	ND (0.00267)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	0.000116 SL (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	ND (0.00267)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Chrysene	0.0019	0.000628 SL (0.00005)	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA	ND (0.00267)	ND (0.00005)	0.000244 (0.00005)	ND (0.0001)	ND (0.0001)
Fluorene	1.9	0.00882 SL (0.00005)	NA	ND (0.0001)	0.00027 (0.00005)	0.000616 (0.00005)	NA	ND (0.00267)	ND (0.00005)	ND (0.00005)	0.0115 (0.001)	0.000687 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	0.0000673 SL (0.00005)	NA	NA	ND (0.00005)	ND (0.00005)	NA	ND,OE (0.00267)	ND (0.00005)	ND (0.00005)	NA	NA
Naphthalene	0.1	0.0103 SL (0.00025)	NA	0.000197 (0.0001)	0.0089 (0.00025)	0.00938 (0.00025)	NA	ND (0.0133)	ND (0.00025)	0.000627 B (0.00025)	ND (0.0001)	ND (0.0001)
Phenanthrene	1.1	0.0307 SL (0.00005)	NA	0.000309 (0.0001)	0.0000508 (0.00005)	0.00109 (0.00005)	NA	0.11 (0.00267)	ND (0.00005)	ND (0.00005)	0.0165 (0.001)	ND (0.0001)
Pyrene	0.13	0.0182 SL (0.0005)	NA	ND (0.0001)	ND (0.00005)	0.0000591 (0.00005)	NA	0.0716 (0.00267)	0.00032 J (0.00005)	0.00178 J (0.00005)	0.000802 (0.0001)	ND (0.0001)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND,SL (0.002)	NA	ND (0.003)	ND (0.002)	ND (0.002)	0.0034 (0.003)	ND (0.002)	ND (0.002)	ND (0.002)	NA	ND (0.003)

Notes:
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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-361	S-362	S-364	S-365	S-365	S-366	S-366	S-366	S-366	S-367	S-367
Field Sample ID	Groundwater MSC	S-361-20161004-WG	S-362_06_04_2013	S-364_06_12_2013	S-365-20160818-WG	S-365-20161012-WG	S-366_06_12_2013	S-366-20160816-WG	S-366-20161011-WG	S-366_20220328	S-367_06_12_2013	S-367-20160815
Sample Date	Used Aquifer	10/4/2016	6/4/2013	6/12/2013	8/18/2016	10/12/2016	6/12/2013	8/16/2016	10/11/2016	3/28/2022	6/12/2013	8/15/2016
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	ND (0.001)	0.0098 (0.001)	0.00704 SL (0.005)	0.0645 SL (0.05)	0.232 (0.005)	0.00651 (0.001)	0.00762 (0.001)	ND (0.005)	0.00083 J (0.001)	ND (0.001)
Cumene	3.5	0.0079 (0.001)	0.0208 (0.002)	0.0577 (0.002)	0.0109 SL (0.005)	0.0674 SL (0.05)	0.0529 (0.002)	0.0496 (0.001)	0.0459 (0.001)	0.0368 (0.01)	0.0458 (0.002)	ND (0.001)
1,2-Dibromoethane	0.00005	ND (0.00004)	ND (0.00002)	ND (0.00002)	ND,SL (0.00001)	ND,SL (0.00001)	ND (0.00002)	ND (0.00001)	ND (0.00001)	ND (0.00002)	ND (0.00002)	ND (0.00001)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.005)	ND,SL (0.05)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	ND (0.001)	0.00046 J (0.001)	0.0408 (0.001)	ND,SL (0.005)	ND,SL (0.05)	0.13 (0.001)	0.00381 (0.001)	ND (0.001)	ND (0.01)	0.0576 (0.001)	ND (0.001)
Methyl tert-butyl ether	0.02	0.0028 (0.001)	ND (0.001)	0.00054 J (0.001)	ND,SL (0.005)	ND,SL (0.05)	0.00046 J (0.001)	ND (0.001)	ND (0.001)	ND (0.01)	0.00038 J (0.001)	ND (0.001)
Toluene	1	ND (0.001)	ND (0.001)	0.0027 (0.001)	ND,SL (0.025)	ND,SL (0.25)	0.0037 (0.001)	ND (0.005)	ND (0.005)	ND (0.01)	0.00028 J (0.001)	ND (0.005)
1,2,4-Trimethylbenzene	0.53	ND (0.001)	ND (0.002)	0.0148 (0.002)	ND,SL (0.005)	ND,SL (0.05)	0.148 (0.002)	0.0351 (0.001)	0.0137 (0.001)	ND (0.02)	0.0539 (0.002)	ND (0.001)
1,3,5-Trimethylbenzene	0.53	ND (0.001)	ND (0.002)	0.0135 (0.002)	0.0125 SL (0.005)	ND,SL (0.05)	0.0451 (0.002)	0.0229 (0.001)	0.0134 (0.001)	ND (0.02)	0.0147 (0.002)	ND (0.001)
Xylenes (total)	10	ND (0.003)	0.00036 J (0.001)	0.0167 (0.001)	ND,SL (0.015)	ND,SL (0.15)	0.335 (0.001)	0.0103 (0.003)	0.00317 (0.003)	ND (0.01)	0.0453 (0.001)	ND (0.003)
Semivolatile Organic Compounds												
Anthracene	0.066	0.00033 (0.0001)	0.000912 (0.0001)	0.000278 (0.0001)	0.000963 SL (0.00005)	0.00243 SL (0.000057)	0.000605 (0.0001)	0.000385 (0.00005)	0.000177 (0.00005)	0.000403 (0.000074)	ND (0.0001)	0.000176 (0.00005)
Benzo(a)anthracene	0.0039	0.000065 J (0.0001)	0.000358 (0.0001)	ND (0.0001)	0.000515 SL (0.00005)	0.000916 SL (0.000057)	0.000327 (0.0001)	0.000111 (0.00005)	ND (0.00005)	0.0000405 (0.000037)	ND (0.0001)	ND (0.00005)
Benzo(a)pyrene	0.0002	0.00003 J (0.0001)	ND (0.0001)	ND (0.0001)	0.000244 SL (0.00005)	0.000421 SL (0.000057)	ND (0.0001)	0.0000559 (0.00005)	ND (0.00005)	0.0000253 J (0.000037)	ND (0.0001)	ND (0.00005)
Benzo(b)fluoranthene	0.0012	0.000056 J (0.0001)	ND (0.0001)	ND (0.0001)	0.000244 SL (0.00005)	0.000351 SL (0.000057)	ND (0.0001)	0.0000637 (0.00005)	ND (0.00005)	0.0000293 J (0.000037)	ND (0.0001)	ND (0.00005)
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	ND (0.0001)	ND (0.0001)	0.000129 SL (0.00005)	0.000194 SL (0.000057)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.000074)	ND (0.0001)	ND (0.00005)
Chrysene	0.0019	0.00021 (0.0001)	0.000424 (0.0001)	ND (0.0001)	0.000497 SL (0.00005)	0.000856 SL (0.000057)	0.000429 (0.0001)	0.0000864 (0.00005)	ND (0.00005)	0.0000594 J (0.000074)	ND (0.0001)	ND (0.00005)
Fluorene	1.9	0.0024 (0.0001)	0.00241 (0.0001)	0.00121 (0.0001)	0.00239 SL (0.00005)	0.00607 SL (0.000057)	0.00324 (0.0001)	0.00293 (0.00005)	0.00141 (0.00005)	0.000542 (0.000074)	0.000873 (0.0001)	0.00153 (0.00005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	0.0000626 OE,SL (0.00005)	0.0001 SL (0.000057)	NA	ND (0.00005)	ND (0.00005)	NA	NA	ND (0.00005)
Naphthalene	0.1	0.00046 (0.0001)	ND (0.0001)	0.0199 (0.001)	0.00443 SL (0.00025)	0.0235 SL (0.00573)	NA	0.00754 (0.00025)	0.00135 (0.00025)	ND (0.000074)	0.00134 (0.0001)	ND (0.00025)
Phenanthrene	1.1	0.0042 (0.0001)	0.00386 (0.0001)	0.00129 (0.0001)	0.00273 SL (0.00005)	0.0125 SL (0.000057)	0.00261 (0.0001)	0.00323 (0.00005)	0.000981 (0.00005)	ND (0.000074)	ND (0.0001)	ND (0.00005)
Pyrene	0.13	0.00036 (0.0001)	0.00104 (0.0001)	0.00021 (0.0001)	0.00224 SL (0.00005)	0.0031 SL (0.000057)	0.000711 (0.0001)	0.000504 (0.00005)	0.0000679 (0.00005)	0.000154 (0.000074)	ND (0.0001)	0.000135 (0.00005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.005)	ND (0.003)	ND (0.003)	ND,SL (0.002)	ND,SL (0.002)	ND (0.003)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.003)	ND (0.002)

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J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-367	S-368	S-368	S-368	S-368	S-369	S-369	S-369	S-369	S-369	S-369
Field Sample ID	Groundwater MSC	S-367-20161011-WG	S-368_06_12_2013	S-368-20161011-WG	S-368_SL_20210519	S-368_20220328	S-369-20160816-WG	S-369-20161010-WG	S-369_20191023	I69_BASE_GRAB_20191205	69_20210510_410-39343-1	DUP-8_20210510
Sample Date	Used Aquifer	10/11/2016	6/12/2013	10/11/2016	5/19/2021	3/28/2022	8/16/2016	10/10/2016	10/23/2019	12/5/2019	5/10/2021	5/10/2021
Comments	(TDS ≤ 2500)											Field Duplicate
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	0.0013 (0.001)	0.243 SL (0.01)	0.07 SL (0.001)	0.0725 (0.0005)	NA	NA	NA	0.91839 (0.018)	0.36 (0.01)	0.37 (0.01)
Cumene	3.5	0.00475 (0.001)	0.042 (0.002)	0.0344 SL (0.01)	0.0077 SL (0.005)	0.013 (0.001)	NA	NA	NA	0.04607 (0.0006)	0.091 (0.005)	0.1 (0.005)
1,2-Dibromoethane	0.00005	ND (0.00001)	ND (0.00002)	ND,SL (0.00001)	ND,SL (0.000028)	ND (0.00002)	NA	NA	NA	ND (0.00271)	ND (0.000029)	ND (0.000028)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND,SL (0.01)	ND,SL (0.001)	ND (0.001)	NA	NA	NA	ND (0.00135)	ND (0.001)	0.0033 (0.001)
Ethyl Benzene	0.7	ND (0.001)	0.0022 (0.001)	0.0901 SL (0.01)	0.0026 SL (0.001)	0.0024 (0.001)	NA	NA	NA	0.00711 (0.0006)	0.0097 (0.001)	0.01 (0.001)
Methyl tert-butyl ether	0.02	ND (0.001)	0.00036 J (0.001)	ND,SL (0.01)	ND,SL (0.001)	ND (0.001)	NA	NA	NA	0.01411 (0.00045)	0.0019 (0.001)	0.002 (0.001)
Toluene	1	ND (0.005)	0.00097 J (0.001)	0.352 SL (0.05)	0.0034 SL (0.001)	0.0025 (0.001)	NA	NA	NA	0.04364 (0.00045)	0.037 (0.001)	0.041 (0.001)
1,2,4-Trimethylbenzene	0.53	ND (0.001)	0.0028 (0.002)	0.589 SL (0.01)	0.0096 SL (0.005)	0.0079 (0.002)	NA	NA	NA	ND (0.0006)	0.012 (0.005)	0.013 (0.005)
1,3,5-Trimethylbenzene	0.53	ND (0.001)	0.001 J (0.002)	0.217 SL (0.01)	0.014 SL (0.005)	0.0121 (0.002)	NA	NA	NA	0.00278 (0.0006)	0.0024 J (0.005)	0.0025 J (0.005)
Xylenes (total)	10	ND (0.003)	0.0066 (0.001)	0.995 SL (0.03)	0.017 SL (0.006)	0.0203 (0.001)	NA	NA	NA	0.02785 J (0.0006)	0.025 (0.006)	0.026 (0.006)
Semivolatile Organic Compounds												
Anthracene	0.066	0.0000819 (0.00005)	0.000138 (0.0001)	0.0455 SL (0.0025)	0.003 SL (0.00051)	0.00175 (0.000074)	NA	NA	ND (0.0005)	NA	0.00011 J (0.00053)	0.00012 J (0.0005)
Benzo(a)anthracene	0.0039	ND (0.00005)	ND (0.0001)	0.00448 SL (0.0025)	0.00052 SL (0.00051)	0.000212 (0.000037)	NA	NA	ND (0.0005)	NA	ND (0.00053)	ND (0.0005)
Benzo(a)pyrene	0.0002	ND (0.00005)	ND (0.0001)	ND,SL (0.0025)	ND,SL (0.00051)	ND (0.000037)	NA	NA	ND (0.0005)	NA	ND (0.00053)	ND (0.0005)
Benzo(b)fluoranthene	0.0012	ND (0.00005)	ND (0.0001)	ND,SL (0.0025)	ND,SL (0.00051)	0.0000391 (0.000037)	NA	NA	ND (0.0005)	NA	ND (0.00053)	ND (0.0005)
Benzo(g,h,i)perylene	0.00026	ND (0.00005)	ND (0.0001)	ND,SL (0.0025)	ND,SL (0.00051)	ND (0.000074)	NA	NA	ND (0.0005)	NA	ND (0.00053)	ND (0.0005)
Chrysene	0.0019	ND (0.00005)	ND (0.0001)	0.00595 SL (0.0025)	0.00057 SL (0.00051)	0.000472 (0.000074)	NA	NA	ND (0.0005)	NA	ND (0.00053)	ND (0.0005)
Fluorene	1.9	0.00146 (0.00005)	0.00156 (0.0001)	0.0893 SL (0.0025)	0.0069 SL (0.00051)	0.00482 (0.00037)	NA	NA	0.002 (0.0005)	NA	0.0017 (0.00053)	0.0021 (0.0005)
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.00005)	NA	ND,SL (0.0025)	NA	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA
Naphthalene	0.1	ND (0.00025)	ND (0.0001)	0.429 SL (0.0125)	ND,SL (0.00051)	0.00185 (0.000074)	NA	NA	NA	ND (0.00151)	0.0011 (0.00053)	ND (0.0005)
Phenanthrene	1.1	ND (0.00005)	0.000887 (0.0001)	0.352 SL (0.0025)	0.015 SL (0.00051)	0.0075 (0.00037)	NA	NA	0.0009 (0.0005)	NA	0.0011 (0.00053)	0.0013 (0.0005)
Pyrene	0.13	ND (0.00005)	ND (0.0001)	0.0862 SL (0.0025)	0.0057 SL (0.00051)	0.00257 (0.000074)	NA	NA	ND (0.0005)	NA	ND (0.00053)	ND (0.0005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.002)	ND (0.003)	ND,SL (0.002)	0.000076 J,SL (0.00052)	ND (0.001)	NA	NA	0.00064 (0.0005)	NA	0.00079 (0.00052)	0.00076 (0.00052)

Notes:
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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-369	S-369	S-370	S-370	S-370	S-371	S-371	S-371	S-372	S-372	S-372
Field Sample ID	Groundwater MSC	S-369_20220404_42610	S-369_20230427	S-370_06_14_2013	S-370-20160816-WG	S-370-20161012-WG	S-371_06_14_2013	S-371-20160816-WG	S-371-20161012-WG	S-372_06_13_2013	AOI3_S-372_121715	S-372-20160817-WG
Sample Date	Used Aquifer	4/4/2022	4/27/2023	6/14/2013	8/16/2016	10/12/2016	6/14/2013	8/16/2016	10/12/2016	6/13/2013	12/17/2015	8/17/2016
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.611 (0.002)	0.343 (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	0.0136 (0.001)	0.0469 (0.025)	0.0244 J- (0.01)	0.0015 (0.001)	0.0015 (0.0005)	ND (0.001)
Cumene	3.5	0.0886 (0.004)	0.0736 (0.001)	0.004 (0.002)	0.00583 (0.001)	0.0129 (0.001)	0.0155 (0.002)	0.0513 (0.025)	0.0367 J- (0.01)	0.0244 (0.002)	0.0525 (0.001)	0.0238 (0.001)
1,2-Dibromoethane	0.00005	ND (0.00002)	ND (0.000021)	ND (0.00002)	ND (0.00001)	ND (0.00001)	ND (0.00002)	ND (0.00001)	ND (0.00001)	ND (0.00002)	ND (0.000045)	ND (0.00001)
1,2-Dichloroethane	0.005	ND (0.004)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.025)	ND,J (0.01)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.0105 (0.004)	0.0083 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0155 (0.001)	0.567 (0.025)	0.224 J- (0.01)	0.0014 (0.001)	0.0018 (0.001)	ND (0.001)
Methyl tert-butyl ether	0.02	0.0221 (0.004)	0.0073 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0023 (0.001)	ND (0.025)	ND,J (0.01)	0.0047 (0.001)	0.0026 (0.001)	ND (0.001)
Toluene	1	0.0428 (0.004)	0.035 (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	0.006 (0.001)	ND (0.125)	ND,J (0.05)	0.00028 J (0.001)	0.00084 J (0.001)	ND (0.005)
1,2,4-Trimethylbenzene	0.53	ND (0.008)	0.0027 (0.002)	0.00028 J (0.002)	0.0019 (0.001)	ND (0.001)	0.0445 (0.002)	1.19 (0.025)	0.844 J- (0.01)	0.00063 J (0.002)	0.0024 (0.002)	ND (0.001)
1,3,5-Trimethylbenzene	0.53	ND (0.008)	0.0024 (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	0.0183 (0.002)	0.411 (0.025)	0.338 J- (0.01)	0.00041 J (0.002)	0.001 J (0.002)	ND (0.001)
Xylenes (total)	10	0.0343 (0.004)	0.028 (0.001)	ND (0.001)	ND (0.003)	ND (0.003)	0.0556 (0.001)	1.45 (0.075)	0.649 J- (0.03)	0.00086 J (0.001)	0.0018 (0.001)	ND (0.003)
Semivolatile Organic Compounds												
Anthracene	0.066	0.000159 B (0.00013)	0.000284 (0.000083)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	0.00135 (0.00005)	0.00332 (0.001)	ND (0.0001)	ND (0.0001)	ND (0.00005)
Benzo(a)anthracene	0.0039	0.0000885 B (0.000067)	0.0000913 (0.000042)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.00005)	ND (0.001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Benzo(a)pyrene	0.0002	0.0000639 J (0.000067)	0.0000402 J (0.000042)	ND (0.0001)	ND (0.00005)	0.0000604 (0.00005)	ND (0.0001)	ND (0.00005)	ND (0.001)	ND (0.0001)	ND (0.00005)	ND (0.00005)
Benzo(b)fluoranthene	0.0012	0.0000544 B,J (0.000067)	0.0000663 (0.000042)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.00005)	ND (0.001)	ND (0.0001)	ND (0.0001)	ND (0.00005)
Benzo(g,h,i)perylene	0.00026	ND (0.00013)	0.000045 J (0.000083)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	ND (0.00005)	ND (0.001)	ND (0.0001)	ND (0.0001)	ND (0.00005)
Chrysene	0.0019	0.0000951 J (0.00013)	0.000134 (0.000083)	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND (0.0001)	0.0000504 (0.00005)	ND (0.001)	ND (0.0001)	ND (0.0001)	ND (0.00005)
Fluorene	1.9	0.00129 B (0.00013)	0.00134 (0.000083)	ND (0.0001)	0.00684 (0.00005)	0.00532 (0.00005)	0.00144 (0.0001)	0.00718 (0.00005)	0.0215 (0.001)	0.000174 (0.0001)	0.000302 (0.0001)	0.000237 (0.00005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA	ND (0.00005)	ND (0.001)	NA	NA	ND (0.00005)
Naphthalene	0.1	0.00103 B (0.00013)	ND (0.000083)	ND (0.0001)	0.00472 (0.00025)	0.00222 (0.00025)	0.00252 (0.0001)	0.242 (0.005)	0.119 (0.005)	ND (0.0001)	ND (0.0001)	0.00168 (0.00025)
Phenanthrene	1.1	0.00105 B (0.00013)	0.00223 (0.000083)	ND (0.0001)	0.00346 (0.00005)	0.00277 (0.00005)	0.000606 (0.0001)	0.0133 (0.00005)	0.0365 (0.001)	ND (0.0001)	0.000179 (0.0001)	0.000146 (0.00005)
Pyrene	0.13	0.000188 (0.00013)	0.000234 (0.000083)	ND (0.0001)	0.000149 (0.00005)	0.0000812 (0.00005)	ND (0.0001)	0.000511 (0.00005)	0.00189 (0.001)	ND (0.0001)	ND (0.0001)	ND (0.00005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.001)	0.0012 (0.001)	ND (0.003)	ND (0.002)	ND (0.002)	ND (0.003)	ND (0.002)	ND (0.002)	ND (0.003)	ND (0.003)	ND (0.002)

Notes:

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2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-372	S-373	S-374	S-374	S-374	S-374	S-374	S-374	S-375	S-375	S-375
Field Sample ID	Groundwater MSC	S-372-20161013-WG	S-373-20161014-WG	S-374_20191023	S-374_CSIA_20191209	S-374_20200901	S-374_20210504	S-374_20220404	S-374_20230501	S-375_20191023	375_BASE_GRAB_20191209	S-375_CSIA_20191209
Sample Date	Used Aquifer	10/13/2016	10/14/2016	10/23/2019	12/9/2019	9/1/2020	5/4/2021	4/4/2022	5/1/2023	10/23/2019	12/9/2019	12/9/2019
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	3.33 SL (0.2)	NA	0.123	0.19 (0.005)	0.23 (0.005)	0.385 (0.0025)	0.14 (0.002)	NA	NA	0.794
Cumene	3.5	0.0361 (0.001)	ND,SL (0.2)	0.12 (0.025)	NA	0.097 (0.025)	0.092 (0.025)	0.137 (0.005)	0.0708 (0.004)	NA	0.04802 (0.0006)	NA
1,2-Dibromoethane	0.00005	ND (0.00001)	ND,SL (0.00001)	0.000025 J (0.000028)	NA	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.000021)	NA	ND (0.00271)	NA
1,2-Dichloroethane	0.005	ND (0.001)	ND,SL (0.2)	ND (0.025)	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.004)	NA	ND (0.00135)	NA
Ethyl Benzene	0.7	ND (0.001)	0.752 SL (0.2)	NA	1.03	0.98 (0.005)	0.89 (0.005)	1.44 (0.05)	0.555 (0.004)	NA	NA	0.811
Methyl tert-butyl ether	0.02	0.00127 (0.001)	ND,SL (0.2)	ND (0.005)	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.004)	NA	0.00068 J (0.00045)	NA
Toluene	1	ND (0.005)	ND,SL (1)	NA	0.255	0.79 (0.005)	0.31 (0.005)	0.188 (0.005)	0.0673 (0.004)	NA	NA	0.799
1,2,4-Trimethylbenzene	0.53	ND (0.001)	1.01 SL (0.2)	0.95 (0.025)	NA	0.77 (0.025)	0.65 (0.025)	0.886 (0.01)	0.444 (0.008)	NA	0.68194 (0.02409)	NA
1,3,5-Trimethylbenzene	0.53	ND (0.001)	0.295 SL (0.2)	0.22 (0.025)	NA	0.16 (0.025)	0.14 (0.025)	0.169 (0.01)	0.0957 (0.008)	NA	0.20951 (0.024)	NA
Xylenes (total)	10	ND (0.003)	3.84 SL (0.6)	NA	1.86	2.1 (0.03)	1.9 (0.03)	1.97 (0.005)	0.724 (0.004)	NA	NA	3.59
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00005)	0.355 SL (0.025)	ND (0.0005)	NA	ND,H (0.00051)	ND (0.00051)	ND (0.000071)	ND (0.00008)	ND (0.0005)	NA	NA
Benzo(a)anthracene	0.0039	ND (0.00005)	ND,SL (0.025)	ND (0.0005)	NA	ND,H (0.00051)	ND (0.00051)	ND (0.000036)	ND (0.00004)	ND (0.0005)	NA	NA
Benzo(a)pyrene	0.0002	ND (0.00005)	0.000289 SL (0.00005)	ND (0.0005)	NA	ND,H (0.00051)	ND (0.00051)	ND (0.000036)	ND (0.00004)	ND (0.0005)	NA	NA
Benzo(b)fluoranthene	0.0012	ND (0.00005)	0.000323 SL (0.00005)	ND (0.0005)	NA	ND,H (0.00051)	ND (0.00051)	ND (0.000036)	ND (0.00004)	ND (0.0005)	NA	NA
Benzo(g,h,i)perylene	0.00026	ND (0.00005)	0.000238 SL (0.00005)	ND (0.0005)	NA	ND,H (0.00051)	ND (0.00051)	ND (0.000071)	ND (0.00008)	ND (0.0005)	NA	NA
Chrysene	0.0019	ND (0.00005)	ND,SL (0.025)	ND (0.0005)	NA	ND,H (0.00051)	ND (0.00051)	ND (0.000071)	ND (0.00008)	ND (0.0005)	NA	NA
Fluorene	1.9	0.000282 (0.00005)	0.748 SL (0.025)	0.0003 J (0.0005)	NA	ND,H (0.00051)	0.00018 J (0.00051)	0.000079 B (0.000071)	0.000107 (0.00008)	0.0002 J (0.0005)	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.00005)	0.000144 SL (0.00005)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.00206 (0.00025)	2.41 SL (0.125)	NA	0.328	0.16 H (0.0051)	0.22 (0.0026)	0.0833 B (0.0014)	0.0798 (0.0016)	NA	NA	0.27
Phenanthrene	1.1	0.0002 (0.00005)	2.25 SL (0.025)	0.0001 J (0.0005)	NA	ND,H (0.00051)	ND (0.00051)	0.0000864 B (0.000071)	0.0000884 (0.00008)	0.0002 J (0.0005)	NA	NA
Pyrene	0.13	ND (0.00005)	0.112 SL (0.025)	ND (0.0005)	NA	ND,H (0.00051)	ND (0.00051)	ND (0.000071)	ND (0.00008)	ND (0.0005)	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.002)	ND,SL (0.002)	0.00036 J (0.0005)	NA	0.00032 J (0.00052)	0.00034 J (0.00052)	ND (0.001)	ND (0.001)	ND (0.0005)	NA	NA

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Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-375	S-375	S-375	S-375	S-376	S-376	S-376	S-376	S-376	S-376	S-377
Field Sample ID	Groundwater MSC	75_20200902_410-12999-1	S-375_20210504	S-375_20220404	S-375_20230501	S-376_SL_20191120	S-376_CSIA_20191212	S-376_SL_20200903	SL_20210512_410-39710-1	S-376_SL_20220420_43617	S-376-SL_20230427	S-377-20190117-WG
Sample Date	Used Aquifer	9/2/2020	5/4/2021	4/4/2022	5/1/2023	11/20/2019	12/12/2019	9/3/2020	5/12/2021	4/20/2022	4/27/2023	1/17/2019
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	1.6 (0.05)	0.49 (0.005)	0.844 (0.005)	0.298 (0.0025)	NA	0.0691	0.13 SL (0.01)	0.63 SL (0.005)	0.124 SL (0.0025)	0.146 SL (0.01)	NA
Cumene	3.5	0.04 (0.025)	0.039 (0.025)	0.0494 (0.01)	0.0171 (0.005)	0.024 SL (0.013)	NA	0.018 J,SL (0.05)	0.013 J,SL (0.025)	0.0175 SL (0.005)	0.0277 SL (0.02)	0.0378 (0.005)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.000021)	ND,SL (0.000029)	NA	ND,SL (0.000029)	ND,SL (0.000029)	ND,SL (0.00002)	ND,SL (0.000022)	ND (0.00001)
1,2-Dichloroethane	0.005	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND,SL (0.013)	NA	ND,SL (0.01)	ND,SL (0.005)	ND,SL (0.005)	ND,SL (0.02)	ND (0.005)
Ethyl Benzene	0.7	0.84 (0.005)	0.89 (0.005)	1.04 (0.01)	0.321 (0.005)	NA	0.48	0.93 SL (0.01)	0.49 SL (0.005)	0.869 SL (0.005)	1.39 SL (0.02)	NA
Methyl tert-butyl ether	0.02	0.0025 J (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	0.001 J,SL (0.003)	NA	0.0024 J,SL (0.01)	0.0064 SL (0.005)	ND,SL (0.005)	ND,SL (0.02)	ND (0.005)
Toluene	1	0.42 (0.005)	0.39 (0.005)	0.431 (0.01)	0.122 (0.005)	NA	1.09	3.5 SL (0.1)	1 SL (0.05)	1.78 SL (0.02)	2.45 SL (0.02)	NA
1,2,4-Trimethylbenzene	0.53	0.63 (0.025)	0.63 (0.025)	0.814 (0.02)	0.303 (0.01)	1.6 SL (0.13)	NA	1.1 SL (0.05)	0.53 SL (0.025)	0.927 SL (0.01)	1.61 SL (0.04)	0.284 (0.005)
1,3,5-Trimethylbenzene	0.53	0.21 (0.025)	0.22 (0.025)	0.285 (0.02)	0.103 (0.01)	0.36 SL (0.013)	NA	0.33 SL (0.05)	0.16 SL (0.025)	0.274 SL (0.01)	0.461 SL (0.04)	0.129 (0.005)
Xylenes (total)	10	3.7 (0.3)	4.2 (0.3)	3.74 (0.01)	1.34 (0.005)	NA	4.45	6.4 SL (0.6)	2.8 SL (0.03)	5.1 SL (0.02)	9.57 SL (0.02)	NA
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00051)	ND (0.0005)	ND (0.000071)	0.0000496 J (0.00008)	ND,SL (0.0006)	NA	ND,SL (0.0005)	ND,SL (0.0005)	ND,SL (0.000077)	ND,SL (0.000083)	NA
Benzo(a)anthracene	0.0039	ND (0.00051)	ND (0.0005)	ND (0.000036)	ND (0.00004)	ND,SL (0.0006)	NA	ND,SL (0.0005)	ND,SL (0.0005)	ND,SL (0.000038)	ND,SL (0.000042)	NA
Benzo(a)pyrene	0.0002	ND (0.00051)	ND (0.0005)	ND (0.000036)	ND (0.00004)	ND,SL (0.0006)	NA	ND,SL (0.0005)	ND,SL (0.0005)	ND,SL (0.000038)	ND,SL (0.000042)	NA
Benzo(b)fluoranthene	0.0012	ND (0.00051)	ND (0.0005)	ND (0.000036)	ND (0.00004)	ND,SL (0.0006)	NA	ND,SL (0.0005)	ND,SL (0.0005)	ND,SL (0.000038)	ND,SL (0.000042)	NA
Benzo(g,h,i)perylene	0.00026	ND (0.00051)	ND (0.0005)	ND (0.000071)	ND (0.00008)	ND,SL (0.0006)	NA	ND,SL (0.0005)	ND,SL (0.0005)	ND,SL (0.000077)	ND,SL (0.000083)	NA
Chrysene	0.0019	ND (0.00051)	ND (0.0005)	ND (0.000071)	ND (0.00008)	ND,SL (0.0006)	NA	ND,SL (0.0005)	ND,SL (0.0005)	ND,SL (0.000077)	ND,SL (0.000083)	NA
Fluorene	1.9	0.00023 J (0.00051)	0.00018 J (0.0005)	0.000134 B (0.000071)	0.0000796 J (0.00008)	ND,SL (0.0006)	NA	ND,SL (0.0005)	ND,SL (0.0005)	ND,SL (0.000077)	0.00006 J,SL (0.000083)	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.16 (0.001)	0.19 (0.0025)	0.175 B (0.0036)	0.0389 (0.0008)	NA	0.372	0.3 SL (0.0025)	0.16 SL (0.005)	0.14 SL (0.0038)	0.224 SL (0.017)	NA
Phenanthrene	1.1	0.00012 J (0.00051)	0.00015 J (0.0005)	0.000121 B (0.000071)	0.000127 (0.00008)	ND,SL (0.0006)	NA	ND,SL (0.0005)	ND,SL (0.0005)	0.0000746 J,SL (0.000077)	0.000085 SL (0.000083)	NA
Pyrene	0.13	ND (0.00051)	ND (0.0005)	ND (0.000071)	0.0000464 J (0.00008)	ND,SL (0.0006)	NA	ND,SL (0.0005)	ND,SL (0.0005)	ND,SL (0.000077)	ND,SL (0.000083)	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.00052)	0.00012 J (0.00052)	ND (0.001)	ND (0.001)	0.00043 J,SL (0.0005)	NA	ND,SL (0.00052)	ND,SL (0.00052)	ND,SL (0.001)	ND,SL (0.001)	NA

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-377	S-377	S-377	S-377	S-377	S-378	S-378	S-378	S-378	S-378	S-378
Field Sample ID	Groundwater MSC	S-377_20190619	S-377_20191105	377_BASE_GRAB_20191210	S-377_CSIA_20191210	S-377_20200903	S-378_20191023	S-378_CSIA_20191209	78_20200902_410-12999-1	78_20210506_410-39001-1	S-378_20220405_42610	S-378_20230501
Sample Date	Used Aquifer	6/19/2019	11/5/2019	12/10/2019	12/10/2019	9/3/2020	10/23/2019	12/10/2019	9/2/2020	5/6/2021	4/5/2022	5/1/2023
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.86 (0.05)	0.077 (0.001)	0.01816 (0.0018)	1.56	1 (0.05)	NA	1.66	3.1 (0.1)	1.5 (0.05)	1.48 (0.02)	1.37 (0.005)
Cumene	3.5	0.028 (0.025)	0.012 (0.005)	0.02603 (0.0006)	NA	0.036 (0.025)	0.05 J (0.05)	NA	0.048 J (0.05)	0.043 (0.025)	0.0539 (0.004)	0.0304 (0.01)
1,2-Dibromoethane	0.00005	ND (0.000028)	ND (0.000029)	ND (0.00271)	NA	ND (0.000029)	ND (0.000028)	NA	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.000021)
1,2-Dichloroethane	0.005	ND (0.025)	ND (0.005)	ND (0.00135)	NA	ND (0.005)	ND (0.05)	NA	ND (0.01)	ND (0.005)	ND (0.004)	ND (0.01)
Ethyl Benzene	0.7	0.11 (0.005)	0.074 (0.001)	0.135 (0.00602)	0.053	0.1 (0.005)	NA	0.848	0.74 (0.01)	0.91 (0.005)	0.572 (0.004)	0.26 (0.01)
Methyl tert-butyl ether	0.02	0.012 (0.005)	ND (0.001)	ND (0.00045)	NA	0.013 (0.005)	ND (0.01)	NA	0.0059 J (0.01)	ND (0.005)	0.0051 (0.004)	ND (0.01)
Toluene	1	0.24 (0.005)	0.044 (0.001)	0.00857 (0.00045)	0.319	0.26 (0.005)	NA	0.36	0.32 (0.01)	0.27 (0.005)	0.211 (0.004)	0.109 (0.01)
1,2,4-Trimethylbenzene	0.53	0.089 (0.025)	0.17 (0.05)	0.1819 (0.00602)	NA	0.093 (0.025)	0.94 (0.05)	NA	0.51 (0.05)	0.57 (0.025)	0.375 (0.008)	0.171 (0.02)
1,3,5-Trimethylbenzene	0.53	0.077 (0.025)	0.12 (0.005)	0.09715 (0.006)	NA	0.11 (0.025)	0.33 (0.05)	NA	0.19 (0.05)	0.22 (0.025)	0.165 (0.008)	0.0917 (0.02)
Xylenes (total)	10	0.41 (0.025)	0.35 (0.003)	0.25455 J (0.00605)	0.384	0.6 (0.03)	NA	0.66	0.73 (0.06)	0.73 (0.03)	0.51 (0.004)	0.167 (0.01)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.0005)	ND (0.0006)	NA	NA	ND (0.0005)	ND (0.0006)	NA	ND (0.00051)	ND (0.00052)	0.0000999 B (0.000087)	0.0000497 J (0.000083)
Benzo(a)anthracene	0.0039	ND (0.0005)	ND (0.0006)	NA	NA	ND (0.0005)	ND (0.0006)	NA	ND (0.00051)	ND (0.00052)	ND (0.000043)	ND (0.000042)
Benzo(a)pyrene	0.0002	ND (0.0005)	ND (0.0006)	NA	NA	ND (0.0005)	ND (0.0006)	NA	ND (0.00051)	ND (0.00052)	ND (0.000043)	ND (0.000042)
Benzo(b)fluoranthene	0.0012	ND (0.0005)	ND (0.0006)	NA	NA	ND (0.0005)	ND (0.0006)	NA	ND (0.00051)	ND (0.00052)	ND (0.000043)	ND (0.000042)
Benzo(g,h,i)perylene	0.00026	ND (0.0005)	ND (0.0006)	NA	NA	ND (0.0005)	ND (0.0006)	NA	ND (0.00051)	ND (0.00052)	ND (0.000087)	ND (0.000083)
Chrysene	0.0019	ND (0.0005)	ND (0.0006)	NA	NA	ND (0.0005)	ND (0.0006)	NA	ND (0.00051)	ND (0.00052)	ND (0.000087)	ND (0.000083)
Fluorene	1.9	ND (0.0005)	ND (0.0006)	NA	NA	ND (0.0005)	ND (0.0006)	NA	ND (0.00051)	0.00013 J (0.00052)	0.000134 B (0.000087)	0.000062 J (0.000083)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.033 (0.0005)	0.034 (0.0006)	0.05816 (0.00151)	0.0903 J	0.044 (0.0005)	NA	0.271	0.13 (0.001)	0.22 (0.0026)	0.0832 (0.0017)	0.0605 (0.0017)
Phenanthrene	1.1	ND (0.0005)	ND (0.0006)	NA	NA	ND (0.0005)	ND (0.0006)	NA	ND (0.00051)	ND (0.00052)	0.000111 B (0.000087)	0.0000616 J (0.000083)
Pyrene	0.13	ND (0.0005)	ND (0.0006)	NA	NA	ND (0.0005)	ND (0.0006)	NA	ND (0.00051)	ND (0.00052)	ND (0.000087)	ND (0.000083)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.003)	0.000073 J (0.0005)	NA	NA	ND (0.00052)	ND (0.0005)	NA	ND (0.00052)	ND (0.00052)	ND (0.001)	ND (0.001)

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-379	S-38	S-38	S-38	S-38	S-38	S-38	S-38	S-38	S-38	S-38
Field Sample ID	Groundwater MSC	S-379_06_12_2013	S-38~12/2/1999	S-38~11/16/2000	S-38~11/14/2001	S-38~11/12/2002	S-38~11/13/2003	S38-050305	S-38_11_8_2005	S-38-20160816-WG	S-38-20161010-WG	38_20200902_410-12999-1
Sample Date	Used Aquifer	6/12/2013	12/2/1999	11/16/2000	11/14/2001	11/12/2002	11/13/2003	5/3/2005	11/8/2005	8/16/2016	10/10/2016	9/2/2020
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.0199 (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.13 (0.005)
Cumene	3.5	0.0034 (0.002)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.013 J (0.025)
1,2-Dibromoethane	0.00005	ND (0.00002)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.000029)
1,2-Dichloroethane	0.005	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.005)
Ethyl Benzene	0.7	0.0015 (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.097 (0.005)
Methyl tert-butyl ether	0.02	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.005)
Toluene	1	0.00054 J (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.17 (0.005)
1,2,4-Trimethylbenzene	0.53	0.00053 J (0.002)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.013 J (0.025)
1,3,5-Trimethylbenzene	0.53	0.0039 (0.002)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.008 J (0.025)
Xylenes (total)	10	0.0013 (0.001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.11 (0.03)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.0005)
Benzo(a)anthracene	0.0039	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.0005)
Benzo(a)pyrene	0.0002	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.0005)
Benzo(b)fluoranthene	0.0012	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.0005)
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.0005)
Chrysene	0.0019	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.0005)
Fluorene	1.9	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.0005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	ND (0.01)	0.0023	NA	ND (0.0001)	ND (0.00005)	ND (0.00005)	NA
Naphthalene	0.1	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.02 (0.0005)
Phenanthrene	1.1	0.000199 (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.0005)
Pyrene	0.13	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.0005)
Metals												
Lead	0.005	NA	0.583	0.075	0.14	NA	NA	ND (0.001)	ND (0.01)	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.003)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.00052)

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-38	S-38	S-38	S-38	S-380	S-380	S-380	S-380	S-380	S-381	S-381
Field Sample ID	Groundwater MSC	S-38_20210503	DUP-5_20210503	S-38_20220328	S-38_20230426	S-380-20160812-WG	S-380-20161010-WG	S-380-20161010-WG-DUP	S-380-20170517	S-380_20180626	S-381_06_14_2013	S-381-20160817-WG
Sample Date	Used Aquifer	5/3/2021	5/3/2021	3/28/2022	4/26/2023	8/12/2016	10/10/2016	10/10/2016	5/17/2017	6/26/2018	6/14/2013	8/17/2016
Comments	(TDS ≤ 2500)		Field Duplicate					Field Duplicate				
Volatile Organic Compounds												
Benzene	0.005	0.0055 (0.001)	0.0075 (0.001)	0.0023 (0.0005)	0.0099 (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.296 (0.01)	0.0103 (0.001)
Cumene	3.5	0.00066 J (0.005)	0.0013 J (0.005)	0.0012 (0.001)	0.0082 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	0.0606 (0.02)	0.00415 (0.001)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000028)	ND (0.00002)	ND (0.00002)	ND (0.00001)	ND (0.00001)	ND (0.00001)	ND (0.000029)	ND (0.00001)	ND (0.00002)	ND (0.00001)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.001)
Ethyl Benzene	0.7	0.0016 (0.001)	0.0038 (0.001)	0.003 (0.001)	0.0174 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.554 (0.01)	0.0652 (0.001)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.026 (0.01)	ND (0.001)
Toluene	1	0.0025 (0.001)	0.005 (0.001)	0.0051 (0.001)	0.0234 (0.001)	0.0147 (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	1.77 (0.01)	0.109 (0.005)
1,2,4-Trimethylbenzene	0.53	ND (0.005)	0.0013 J (0.005)	ND (0.002)	0.0035 (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	1.13 (0.02)	0.088 (0.001)
1,3,5-Trimethylbenzene	0.53	ND (0.005)	0.0005 J (0.005)	ND (0.002)	0.0023 (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	0.374 (0.02)	0.0216 (0.001)
Xylenes (total)	10	0.0024 J (0.006)	0.0057 J (0.006)	0.004 (0.001)	0.0246 (0.001)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.001)	ND (0.003)	3.6 (0.01)	0.217 (0.003)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00052)	ND (0.00051)	ND (0.000074)	ND (0.000083)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	ND (0.00005)	0.000898 (0.0001)	0.000173 (0.0001)
Benzo(a)anthracene	0.0039	ND (0.00052)	ND (0.00051)	ND (0.000037)	ND (0.000042)	0.0000689 B (0.00005)	ND (0.00005)	ND (0.00005)	0.0002 J (0.0005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(a)pyrene	0.0002	ND (0.00052)	ND (0.00051)	ND (0.000037)	ND (0.000042)	0.0000617 (0.00005)	ND (0.00005)	ND (0.00005)	0.0002 J (0.0005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(b)fluoranthene	0.0012	ND (0.00052)	ND (0.00051)	0.0000293 J (0.000037)	ND (0.000042)	0.0000939 (0.00005)	ND (0.00005)	ND (0.00005)	0.0003 J (0.0005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	ND (0.00052)	ND (0.00051)	ND (0.000074)	ND (0.000083)	0.0000561 (0.00005)	ND (0.00005)	ND (0.00005)	0.0002 J (0.0005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Chrysene	0.0019	ND (0.00052)	ND (0.00051)	ND (0.000074)	ND (0.000083)	0.0000698 (0.00005)	ND (0.00005)	ND (0.00005)	0.0003 J (0.0005)	ND (0.00005)	ND (0.0001)	ND (0.0001)
Fluorene	1.9	ND (0.00052)	ND (0.00051)	0.0000562 J (0.000074)	ND (0.000083)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	ND (0.00005)	0.00973 (0.002)	0.00125 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	ND (0.00005)	NA	NA	NA	ND (0.0001)
Naphthalene	0.1	0.00025 J (0.00052)	0.0005 J (0.00051)	0.000328 (0.000074)	0.00162 (0.000083)	ND (0.00025)	ND (0.00025)	ND (0.00025)	ND (0.0005)	ND (0.00025)	0.136 (0.002)	0.0215 (0.0005)
Phenanthrene	1.1	ND (0.00052)	ND (0.00051)	0.000131 (0.000074)	ND (0.000083)	0.0000745 B (0.00005)	ND (0.00005)	0.0000609 (0.00005)	0.0003 J (0.0005)	ND (0.00005)	0.0137 (0.0002)	0.00164 (0.0001)
Pyrene	0.13	ND (0.00052)	ND (0.00051)	0.000065 J (0.000074)	ND (0.000083)	0.000126 (0.00005)	ND (0.00005)	0.0000809 (0.00005)	0.0004 J (0.0005)	0.0000625 (0.00005)	0.000677 (0.0001)	0.000129 (0.0001)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.00052)	0.000088 J (0.00052)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.002)	0.00016 J (0.001)	ND (0.002)	ND (0.003)	ND (0.002)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-381	S-385	S-385	S-386	S-386	S-386	S-387	S-387	S-387	S-39	S-39
Field Sample ID	Groundwater MSC	S-381-20161013-WG	AOI3_S-385_082613	AOI3_S-385_121415	AOI3_S-386_082613	AOI3_S-386_061015	AOI3_S-386_121715	AOI3_S-387_082613	AOI3_S-387_061515	AOI3_S-387_121515	S-39~11/16/2000	S-39~11/14/2001
Sample Date	Used Aquifer	10/13/2016	8/26/2013	12/14/2015	8/26/2013	6/10/2015	12/17/2015	8/26/2013	6/15/2015	12/15/2015	11/16/2000	11/14/2001
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.0194 (0.001)	0.00049 J (0.001)	ND (0.0005)	ND (0.001)	0.0025 (0.001)	0.00024 J (0.0005)	ND (0.001)	ND (0.001)	ND (0.0005)	NA	NA
Cumene	3.5	0.00697 (0.001)	0.0394 (0.002)	0.0054 (0.001)	ND (0.002)	ND (0.001)	0.00063 J (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	NA	NA
1,2-Dibromoethane	0.00005	ND (0.00001)	ND (0.00002)	ND (0.000019)	ND (0.00002)	0.00018 (0.00004)	ND (0.000036)	ND (0.00002)	0.000086 (0.00004)	ND (0.00002)	NA	NA
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA
Ethyl Benzene	0.7	0.101 (0.001)	0.0471 (0.001)	0.001 (0.001)	ND (0.001)	0.00088 J (0.001)	0.00028 J (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA
Methyl tert-butyl ether	0.02	ND (0.001)	0.0218 (0.001)	0.0084 (0.001)	0.0022 (0.001)	0.0012 (0.001)	0.0016 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA
Toluene	1	0.172 (0.005)	0.001 (0.001)	0.00028 J (0.001)	ND (0.001)	0.0052 (0.001)	0.00039 J (0.001)	ND (0.001)	0.0006 J (0.001)	ND (0.001)	NA	NA
1,2,4-Trimethylbenzene	0.53	0.15 (0.001)	0.0213 (0.002)	ND (0.002)	ND (0.002)	0.0013 (0.001)	0.0011 J (0.002)	ND (0.002)	ND (0.001)	ND (0.002)	NA	NA
1,3,5-Trimethylbenzene	0.53	0.0408 (0.001)	0.0192 (0.002)	0.0008 J (0.002)	ND (0.002)	0.00031 J (0.001)	0.00044 J (0.002)	ND (0.002)	ND (0.001)	ND (0.002)	NA	NA
Xylenes (total)	10	0.352 (0.003)	0.0209 (0.001)	0.00069 J (0.001)	ND (0.001)	0.0053 (0.003)	0.0011 (0.001)	ND (0.001)	ND (0.003)	ND (0.001)	NA	NA
Semivolatile Organic Compounds												
Anthracene	0.066	0.000381 (0.0001)	0.00025 (0.0001)	0.000206 (0.0001)	0.000151 (0.0001)	0.00003 J (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.00011)	ND (0.0001)	NA	NA
Benzo(a)anthracene	0.0039	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.0001)	ND (0.00011)	ND (0.00005)	NA	NA
Benzo(a)pyrene	0.0002	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.0001)	ND (0.0001)	ND (0.00005)	ND (0.0001)	ND (0.00011)	ND (0.00005)	NA	NA
Benzo(b)fluoranthene	0.0012	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.00011)	ND (0.0001)	NA	NA
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.00011)	ND (0.0001)	NA	NA
Chrysene	0.0019	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.00011)	ND (0.0001)	NA	NA
Fluorene	1.9	0.00245 (0.0001)	0.00118 (0.0001)	0.000337 (0.0001)	0.00257 (0.0001)	0.00043 (0.0001)	0.000653 (0.0001)	ND (0.0001)	ND (0.00011)	ND (0.0001)	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.0001)	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.01)
Naphthalene	0.1	0.0335 (0.0005)	0.00461 (0.0001)	0.000156 (0.0001)	ND (0.0001)	0.00048 (0.0001)	ND (0.0001)	ND (0.0001)	0.000051 J (0.00011)	ND (0.0001)	NA	NA
Phenanthrene	1.1	0.00352 (0.0001)	0.00116 (0.0001)	ND (0.0001)	0.00167 (0.0001)	0.00024 (0.0001)	0.000172 (0.0001)	ND (0.0001)	ND (0.00011)	ND (0.0001)	NA	NA
Pyrene	0.13	0.000382 (0.0001)	0.000152 (0.0001)	0.000109 (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	0.000028 J (0.00011)	ND (0.0001)	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.01)	NA
Lead (Dissolved)	0.005	ND (0.002)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.005)	ND (0.003)	ND (0.003)	ND (0.005)	ND (0.003)	NA	NA

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

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TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-39	S-39	S-39	S-39	S-39	S-39	S-39	S-39	S-39	S-39	S-40
Field Sample ID	Groundwater MSC	S-39~11/12/2002	S39-050305	S-39_11_8_2005	S-39~11/29/2006	S-39~12/6/2007	S-39	S-39_20150518	S-39-20160512	S-39-20160810-WG	S-39-20161011-WG	S-40~12/2/1999
Sample Date	Used Aquifer	11/12/2002	5/3/2005	11/8/2005	11/29/2006	12/6/2007	5/19/2014	5/18/2015	5/12/2016	8/10/2016	10/11/2016	12/2/1999
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	NA	NA	NA	NA	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA
Cumene	3.5	NA	NA	NA	NA	NA	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	NA
1,2-Dibromoethane	0.00005	NA	NA	NA	NA	NA	ND (0.00002)	ND (0.000029)	ND (0.000029)	ND (0.00001)	ND (0.00001)	NA
1,2-Dichloroethane	0.005	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA
Ethyl Benzene	0.7	NA	NA	NA	NA	NA	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA
Methyl tert-butyl ether	0.02	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA
Toluene	1	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	NA
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	NA
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	NA
Xylenes (total)	10	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.003)	NA
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	NA
Benzo(a)anthracene	0.0039	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	NA
Benzo(a)pyrene	0.0002	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	NA
Benzo(b)fluoranthene	0.0012	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	NA
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	NA
Chrysene	0.0019	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	NA
Fluorene	1.9	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	NA
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.01)	NA	ND (0.0001)	NA	NA	NA	NA	NA	ND (0.00005)	ND (0.00005)	NA
Naphthalene	0.1	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00025)	ND (0.00025)	NA
Phenanthrene	1.1	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	NA
Pyrene	0.13	NA	NA	NA	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.00005)	ND (0.00005)	NA
Metals												
Lead	0.005	NA	ND (0.001)	ND (0.01)	0.008	ND	NA	NA	NA	NA	NA	0.099
Lead (Dissolved)	0.005	NA	NA	NA	NA	NA	0.0018 J (0.003)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.002)	NA

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-40	S-40	S-40	S-40	S-40	S-40	S-40	S-40	S-40	S-40	S-40
Field Sample ID	Groundwater MSC	S-40~11/16/2000	S-40~11/14/2001	S-40~11/12/2002	S-40-1	S40-050305	S-40_11_8_2005	S-40~11/28/2011	S-40_040813	S-40_06_17_2013	S-40_20150518	S-40-20160519
Sample Date	Used Aquifer	11/16/2000	11/14/2001	11/12/2002	11/13/2003	5/3/2005	11/8/2005	11/28/2011	4/8/2013	6/17/2013	5/18/2015	5/19/2016
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	NA	NA	NA	NA	NA	ND (0.0005)	ND (0.001)	0.00058 J (0.001)	0.01 (0.001)	0.018 (0.001)
Cumene	3.5	NA	NA	NA	NA	NA	NA	0.0006 J	ND (0.002)	0.0013 J (0.002)	0.006 (0.002)	0.016 (0.002)
1,2-Dibromoethane	0.00005	NA	NA	NA	NA	NA	NA	ND (0.0000099)	ND (0.00002)	ND (0.00002)	ND (0.000029)	ND (0.000029)
1,2-Dichloroethane	0.005	NA	NA	NA	NA	NA	NA	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	NA	NA	NA	NA	NA	NA	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	0.001 (0.001)
Methyl tert-butyl ether	0.02	NA	NA	NA	NA	NA	NA	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Toluene	1	NA	NA	NA	NA	NA	NA	0.002	ND (0.001)	ND (0.001)	0.002 (0.001)	0.004 (0.001)
1,2,4-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	NA	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
1,3,5-Trimethylbenzene	0.53	NA	NA	NA	NA	NA	NA	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
Xylenes (total)	10	NA	NA	NA	NA	NA	NA	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	0.001 (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	NA	NA	NA	NA	NA	NA	ND (0.0001)	0.000307 (0.0001)	0.0002 J (0.0005)	0.0005 J (0.0005)
Benzo(a)anthracene	0.0039	NA	NA	NA	NA	NA	ND (0.0001)	NA	ND (0.0001)	0.000236 (0.0001)	ND (0.0005)	0.0002 J (0.0005)
Benzo(a)pyrene	0.0002	NA	NA	NA	NA	NA	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)
Benzo(b)fluoranthene	0.0012	NA	NA	NA	NA	NA	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)
Benzo(g,h,i)perylene	0.00026	NA	NA	NA	NA	NA	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)
Chrysene	0.0019	NA	NA	NA	NA	NA	NA	0.006	ND (0.0001)	0.00031 (0.0001)	ND (0.0005)	0.0002 J (0.0005)
Fluorene	1.9	NA	NA	NA	NA	NA	NA	0.0067	0.000135 (0.0001)	0.000586 (0.0001)	0.0004 J (0.0005)	0.001 (0.0005)
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.01)	ND (0.01)	ND (0.1)	ND (0.002)	NA	ND (0.0001)	NA	NA	NA	NA	NA
Naphthalene	0.1	NA	NA	NA	NA	NA	NA	ND (0.0096)	ND (0.0001)	ND (0.0001)	0.0006 (0.0005)	ND (0.0005)
Phenanthrene	1.1	NA	NA	NA	NA	NA	NA	0.0092	0.000255 (0.0001)	0.00127 (0.0001)	0.0006 (0.0005)	0.002 (0.0005)
Pyrene	0.13	NA	NA	NA	NA	NA	NA	ND (0.000096)	ND (0.0001)	0.000418 (0.0001)	0.0002 J (0.0005)	0.0004 J (0.0005)
Metals												
Lead	0.005	0.057	0.029	NA	NA	ND (0.001)	ND (0.01)	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	NA	NA	NA	NA	NA	NA	ND (0.00008)	ND (0.003)	ND (0.003)	0.00019 J (0.001)	ND (0.001)

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J+ - Indicates an estimated value that is biased high
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-407	S-407	S-408	S-408	S-41	S-41	S-41	S-41	S-41	S-41	S-41
Field Sample ID	Groundwater MSC	AOI3_S-407_121415	S-407-20160407-WG	AOI3_S-408_121615	S-408-20160407-WG	S41-042205	S-41_06/23/2009	S-41-20141208	S-41_20150518	S-41-20160510	S-41-20170516	S-41_20180621
Sample Date	Used Aquifer	12/14/2015	4/7/2016	12/16/2015	4/7/2016	4/22/2005	6/23/2009	12/8/2014	5/18/2015	5/10/2016	5/16/2017	6/21/2018
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	ND (0.0005)	ND (0.001)	0.0016 (0.0005)	ND (0.001)	NA	NA	0.00093 (0.0005)	0.006 (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Cumene	3.5	0.126 (0.001)	0.132 (0.001)	0.0021 (0.001)	ND (0.001)	NA	NA	0.091 (0.001)	0.02 (0.002)	0.028 (0.01)	0.07 (0.01)	0.106 (0.001)
1,2-Dibromoethane	0.00005	ND (0.000019)	ND (0.00004)	ND (0.000019)	ND (0.00004)	NA	NA	ND (0.00002)	ND (0.000029)	ND (0.000029)	ND (0.000029)	ND (0.00001)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Ethyl Benzene	0.7	0.0005 J (0.001)	ND (0.001)	0.00032 J (0.001)	ND (0.001)	NA	NA	0.0016 (0.001)	0.0009 J (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Methyl tert-butyl ether	0.02	0.0025 (0.001)	0.0043 (0.001)	0.0063 (0.001)	0.002 (0.001)	NA	NA	0.0065 (0.001)	0.005 (0.001)	0.006 (0.005)	0.004 J (0.005)	ND (0.001)
Toluene	1	ND (0.001)	ND (0.001)	0.00027 J (0.001)	ND (0.001)	NA	NA	0.0021 (0.001)	0.002 (0.001)	ND (0.005)	ND (0.005)	0.00148 (0.001)
1,2,4-Trimethylbenzene	0.53	ND (0.002)	ND (0.001)	0.011 (0.002)	ND (0.001)	NA	NA	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.01)	ND (0.001)
1,3,5-Trimethylbenzene	0.53	ND (0.002)	ND (0.001)	0.0053 (0.002)	ND (0.001)	NA	NA	0.00023 J (0.002)	ND (0.002)	ND (0.01)	ND (0.01)	ND (0.001)
Xylenes (total)	10	0.00038 J (0.001)	ND (0.003)	0.0035 (0.001)	ND (0.003)	NA	NA	0.0013 (0.001)	0.003 (0.001)	ND (0.005)	ND (0.005)	ND (0.003)
Semivolatile Organic Compounds												
Anthracene	0.066	0.000176 (0.0001)	0.00039 (0.0001)	ND (0.0001)	0.000027 J (0.0001)	NA	NA	0.000192 (0.0001)	0.0001 J (0.0005)	ND (0.0005)	0.0001 J (0.0005)	0.000178 (0.00005)
Benzo(a)anthracene	0.0039	ND (0.00005)	ND (0.0001)	ND (0.00005)	ND (0.0001)	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.00005)
Benzo(a)pyrene	0.0002	ND (0.00005)	ND (0.0001)	ND (0.00005)	0.0000083 J (0.0001)	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.00005)
Benzo(b)fluoranthene	0.0012	ND (0.0001)	ND (0.0001)	ND (0.0001)	0.000024 J (0.0001)	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.00005)
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.00005)
Chrysene	0.0019	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.00005)
Fluorene	1.9	0.00121 (0.0001)	0.0029 (0.0001)	ND (0.0001)	0.000035 J (0.0001)	NA	NA	0.00221 (0.0001)	0.002 (0.0005)	0.002 (0.0005)	0.0007 (0.0005)	0.00249 (0.00005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	ND (0.0001)	0.0017 (0.0001)	ND (0.0001)	0.00021 (0.0001)	NA	NA	ND (0.0001)	0.001 (0.0005)	0.002 (0.0005)	0.0008 (0.0005)	0.00138 (0.00025)
Phenanthrene	1.1	0.000477 (0.0001)	0.002 (0.0001)	ND (0.0001)	0.000025 J (0.0001)	NA	NA	0.00177 (0.0001)	0.001 (0.0005)	ND (0.0005)	0.0003 J (0.0005)	0.000314 (0.00005)
Pyrene	0.13	ND (0.0001)	0.00009 J (0.0001)	ND (0.0001)	0.000042 J (0.0001)	NA	NA	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0000519 (0.00005)
Metals												
Lead	0.005	NA	NA	NA	NA	ND (0.001)	ND (0.001)	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.003)	ND (0.005)	ND (0.003)	ND (0.005)	NA	NA	0.0022 J (0.003)	0.0005 J (0.001)	ND (0.001)	0.00015 J (0.001)	ND (0.002)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

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J+ - Indicates an estimated value that is biased high
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
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XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-415	S-415	S-416	S-416	S-43	S-43	S-43	S-43	S-43	S-43	S-43
Field Sample ID	Groundwater MSC	AOI3_S-415_121715	S-415_20230427	S-416-20160817-WG	S-416-20161012-WG	S-43~11/16/2000	S-43~11/14/2001	S-43~11/12/2002	S-43~11/13/2003	S43-042105	S43-050205	S-43_11_8_2005
Sample Date	Used Aquifer	12/17/2015	4/27/2023	8/17/2016	10/12/2016	11/16/2000	11/14/2001	11/12/2002	11/13/2003	4/21/2005	5/2/2005	11/8/2005
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.694 (0.005)	0.0011 (0.0005)	0.00722 (0.001)	ND (0.001)	NA	NA	NA	NA	NA	NA	NA
Cumene	3.5	0.0445 (0.001)	0.008 (0.001)	0.00388 (0.001)	0.00499 (0.001)	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	0.00005	ND (0.00002)	ND (0.000021)	ND (0.00001)	ND (0.00001)	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	0.7	0.0015 (0.001)	ND (0.001)	0.00141 (0.001)	0.00125 (0.001)	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	0.02	0.0039 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	NA	NA	NA	NA
Toluene	1	0.29 (0.01)	ND (0.001)	ND (0.005)	ND (0.005)	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	0.53	0.00023 J (0.002)	ND (0.002)	0.00203 (0.001)	0.00134 (0.001)	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	0.53	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	10	0.0016 (0.001)	ND (0.001)	ND (0.003)	ND (0.003)	NA	NA	NA	NA	NA	NA	NA
Semivolatile Organic Compounds												
Anthracene	0.066	0.000204 (0.0001)	0.0000584 J (0.00008)	0.000083 (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	0.0039	ND (0.00005)	ND (0.00004)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.0002	ND (0.00005)	ND (0.00004)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	0.0012	ND (0.0001)	ND (0.00004)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	ND (0.00008)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA
Chrysene	0.0019	ND (0.0001)	ND (0.00008)	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA
Fluorene	1.9	0.00151 (0.0001)	0.00038 (0.00008)	0.000225 (0.00005)	0.00011 (0.00005)	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	ND (0.00005)	ND (0.00005)	ND (0.01)	ND (0.01)	ND (0.1)	0.0028	NA	NA	ND (0.0001)
Naphthalene	0.1	ND (0.0001)	ND (0.00008)	0.00129 (0.00025)	0.000874 (0.00025)	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	1.1	0.000186 (0.0001)	0.000163 (0.00008)	0.000156 (0.00005)	0.0000621 B (0.00005)	NA	NA	NA	NA	NA	NA	NA
Pyrene	0.13	ND (0.0001)	ND (0.00008)	0.0000663 (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	0.0134	ND (0.001)	ND (0.001)	ND (0.01)
Lead (Dissolved)	0.005	ND (0.003)	ND (0.001)	ND (0.002)	ND (0.002)	NA	NA	NA	NA	NA	NA	NA

Notes:

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2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-43	S-43	S-43	S-43	S-43	S-43	S-43	S-44	S-44	S-44	S-44
Field Sample ID	Groundwater MSC	S-43_06/23/2009	S-43_040213	S-43~4/2/2013	S-43~JB67921	S-43-20141212	S-43_20150518	S-43-20160510	S44-042105	S-44_06/23/2009	S-44_20191029	S-44_BASE_GRAB_20191205
Sample Date	Used Aquifer	6/23/2009	4/2/2013	4/2/2013	5/27/2014	12/12/2014	5/18/2015	5/10/2016	4/21/2005	6/23/2009	10/29/2019	12/5/2019
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	NA	0.371 (0.0025)	NA	0.0443 (0.0005)	0.0366 (0.0005)	0.05 (0.001)	0.011 (0.001)	NA	NA	NA	0.11557 (0.0018)
Cumene	3.5	NA	0.0317 (0.005)	NA	0.0554 (0.001)	0.0692 (0.001)	0.068 (0.002)	0.056 (0.002)	NA	NA	NA	0.01913 (0.0006)
1,2-Dibromoethane	0.00005	NA	ND (0.00002)	NA	ND (0.00002)	ND (0.00002)	ND (0.000029)	ND (0.000029)	NA	NA	NA	ND (0.00271)
1,2-Dichloroethane	0.005	NA	ND (0.0025)	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	NA	NA	NA	ND (0.00135)
Ethyl Benzene	0.7	NA	0.222 (0.0025)	NA	0.0137 (0.001)	0.033 (0.001)	0.052 (0.001)	0.003 (0.001)	NA	NA	NA	0.00172 J (0.0006)
Methyl tert-butyl ether	0.02	NA	0.0027 (0.0025)	NA	0.0045 (0.001)	0.0044 (0.001)	0.005 (0.001)	0.005 (0.001)	NA	NA	NA	0.08115 (0.00045)
Toluene	1	NA	0.0527 (0.0025)	NA	0.0074 (0.001)	0.0152 (0.001)	0.021 (0.001)	0.007 (0.001)	NA	NA	NA	0.00826 (0.00045)
1,2,4-Trimethylbenzene	0.53	NA	0.0745 (0.005)	NA	0.0029 (0.002)	0.0066 (0.002)	0.019 (0.002)	ND (0.002)	NA	NA	NA	ND (0.0006)
1,3,5-Trimethylbenzene	0.53	NA	0.0445 (0.005)	NA	0.0018 J (0.002)	0.0052 (0.002)	0.014 (0.002)	ND (0.002)	NA	NA	NA	0.00179 J (0.0006)
Xylenes (total)	10	NA	0.0789 (0.0025)	NA	0.0095 (0.001)	0.0209 (0.001)	0.034 (0.001)	0.007 (0.001)	NA	NA	NA	0.01511 J (0.0006)
Semivolatile Organic Compounds												
Anthracene	0.066	NA	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	0.0002 J (0.0005)	ND (0.0005)	NA	NA	ND (0.0007)	NA
Benzo(a)anthracene	0.0039	NA	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	0.0003 J (0.0005)	ND (0.0005)	NA	NA	ND (0.0007)	NA
Benzo(a)pyrene	0.0002	NA	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	0.0003 J (0.0005)	ND (0.0005)	NA	NA	ND (0.0007)	NA
Benzo(b)fluoranthene	0.0012	NA	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	0.0005 J (0.0005)	ND (0.0005)	NA	NA	ND (0.0007)	NA
Benzo(g,h,i)perylene	0.00026	NA	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	0.0003 J (0.0005)	ND (0.0005)	NA	NA	ND (0.0007)	NA
Chrysene	0.0019	NA	ND (0.0001)	NA	ND (0.0001)	ND (0.0001)	0.0004 J (0.0005)	ND (0.0005)	NA	NA	ND (0.0007)	NA
Fluorene	1.9	NA	0.000668 (0.0001)	NA	0.00114 (0.0001)	0.00327 (0.0001)	0.005 (0.0005)	0.004 (0.0005)	NA	NA	ND (0.0007)	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	NA	0.0282 (0.001)	NA	0.00166 (0.0001)	0.00752 (0.001)	0.029 (0.0005)	0.001 (0.0005)	NA	NA	NA	ND (0.00151)
Phenanthrene	1.1	NA	0.00033 (0.0001)	NA	0.00037 (0.0001)	0.00156 (0.0001)	0.005 (0.0005)	0.002 (0.0005)	NA	NA	ND (0.0007)	NA
Pyrene	0.13	NA	ND (0.0001)	NA	ND (0.0001)	0.000122 (0.0001)	0.0006 (0.0005)	ND (0.0005)	NA	NA	ND (0.0007)	NA
Metals												
Lead	0.005	ND (0.001)	NA	NA	NA	NA	NA	NA	ND (0.001)	ND (0.001)	NA	NA
Lead (Dissolved)	0.005	NA	NA	ND (0.001)	0.0015 J (0.003)	ND (0.003)	0.00011 J (0.001)	ND (0.001)	NA	NA	0.00014 J (0.0005)	NA

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-44	S-44	S-44	S-44	S-440	S-440	S-440	S-440	S-440	S-440_CD	S-440_CD
Field Sample ID	Groundwater MSC	S-44_20210505_410-38735-1	DUP-6_20210505	S-44_20220330_42387	S-44_20230503	S-440_20200831	40_20210512_410-39710-1	S-440_20220405_42610	DUP-4_20220405	S-440_20230501	CD-15-W-25.0-20200616	CD-15-W-40.0-20200617
Sample Date	Used Aquifer	5/5/2021	5/5/2021	3/30/2022	5/3/2023	8/31/2020	5/12/2021	4/5/2022	4/5/2022	5/1/2023	6/16/2020	6/17/2020
Comments	(TDS ≤ 2500)		Field Duplicate						Field Duplicate			
Volatile Organic Compounds												
Benzene	0.005	0.15 (0.005)	0.15 (0.005)	0.136 (0.0013)	0.12 (0.0005)	ND (0.001)	0.00094 J (0.001)	0.0048 (0.0005)	0.0081 (0.0005)	ND (0.0005)	ND (0.001)	ND (0.001)
Cumene	3.5	0.031 (0.025)	0.024 J (0.025)	0.0184 (0.0025)	0.0206 (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.000021)	ND (0.000029)	ND (0.000028)	ND (0.00002)	ND (0.00002)	ND (0.000022)	ND (0.000029)	0.000036 (0.000028)
1,2-Dichloroethane	0.005	ND (0.005)	ND (0.005)	ND (0.0025)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	0.0031 J (0.005)	0.0027 J (0.005)	0.0017 J (0.0025)	0.0018 (0.001)	ND (0.001)	ND (0.001)	0.00067 J (0.001)	0.0012 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Methyl tert-butyl ether	0.02	0.054 (0.005)	0.054 (0.005)	0.066 (0.0025)	0.0578 (0.001)	0.0053 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0064 (0.001)	0.049 (0.001)
Toluene	1	0.0088 (0.005)	0.0079 (0.005)	0.0061 (0.0025)	0.007 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2,4-Trimethylbenzene	0.53	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.002)	ND (0.005)	ND (0.005)	0.0024 (0.002)	0.0036 (0.002)	ND (0.002)	ND (0.005)	ND (0.005)
1,3,5-Trimethylbenzene	0.53	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.002)	ND (0.005)	ND (0.005)	0.0011 J (0.002)	0.0015 J (0.002)	ND (0.002)	ND (0.005)	ND (0.005)
Xylenes (total)	10	0.012 J (0.03)	0.0098 J (0.03)	0.0099 (0.0025)	0.0133 (0.001)	ND (0.006)	ND (0.006)	0.0047 (0.001)	0.0078 (0.001)	ND (0.001)	ND (0.006)	ND (0.006)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00058)	ND (0.00059)	0.000061 J (0.000082)	0.00023 (0.00008)	ND (0.00051)	ND (0.0005)	ND (0.000083)	ND (0.000087)	ND (0.00008)	NA	NA
Benzo(a)anthracene	0.0039	ND (0.00058)	ND (0.00059)	ND (0.000041)	0.0000431 (0.00004)	ND (0.00051)	ND (0.0005)	ND (0.000042)	ND (0.000043)	ND (0.00004)	NA	NA
Benzo(a)pyrene	0.0002	ND (0.00058)	ND (0.00059)	ND (0.000041)	ND (0.00004)	ND (0.00051)	ND (0.0005)	ND (0.000042)	ND (0.000043)	ND (0.00004)	NA	NA
Benzo(b)fluoranthene	0.0012	ND (0.00058)	ND (0.00059)	ND (0.000041)	0.0000276 J (0.00004)	ND (0.00051)	ND (0.0005)	ND (0.000042)	ND (0.000043)	ND (0.00004)	NA	NA
Benzo(g,h,i)perylene	0.00026	ND (0.00058)	ND (0.00059)	ND (0.000082)	ND (0.00008)	ND (0.00051)	ND (0.0005)	ND (0.000083)	ND (0.000087)	ND (0.00008)	NA	NA
Chrysene	0.0019	ND (0.00058)	ND (0.00059)	ND (0.000082)	0.0000773 J (0.00008)	ND (0.00051)	ND (0.0005)	ND (0.000083)	ND (0.000087)	ND (0.00008)	NA	NA
Fluorene	1.9	0.00015 J (0.00058)	0.0002 J (0.00059)	ND (0.000082)	0.0011 (0.00008)	ND (0.00051)	ND (0.0005)	0.0000657 JB (0.000083)	0.0000575 JB (0.000087)	ND (0.00008)	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	ND (0.00058)	ND (0.00059)	0.00016 B (0.000082)	0.129 B (0.0032)	ND (0.00051)	ND (0.0005)	0.000134 B (0.000083)	0.000199 B (0.000087)	0.0000644 J (0.00008)	ND (0.005)	ND (0.005)
Phenanthrene	1.1	ND (0.00058)	ND (0.00059)	ND (0.000082)	0.0011 (0.00008)	ND (0.00051)	ND (0.0005)	0.0000786 JB (0.000083)	0.0000851 JB (0.000087)	0.0000497 J (0.00008)	NA	NA
Pyrene	0.13	ND (0.00058)	ND (0.00059)	ND (0.000082)	0.000122 (0.00008)	ND (0.00051)	ND (0.0005)	ND (0.000083)	ND (0.000087)	ND (0.00008)	NA	NA
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.00052)	ND (0.00052)	ND (0.001)	0.0064 (0.001)	0.00029 J (0.00052)	ND (0.00052)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.00052)	ND (0.00052)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
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H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-441	S-441	S-441	S-441	S-441_CD	S-441_CD	S-441_CD	S-441_CD	S-442
Field Sample ID	Groundwater MSC	S-441_20200831	S-441_20210505_410-38735-1	S-441_20220405_42610	S-441_20230501	CD-6A-W-19.0-20200722_410-14623-1	CD-6A-W-19.0-20200722_410-8574-1	CD-6A-W-44.0-20200723_410-14623-1	CD-6A-W-44.0-20200723_410-8574-1	S-442_20200831
Sample Date	Used Aquifer	8/31/2020	5/5/2021	4/5/2022	5/1/2023	7/22/2020	7/22/2020	7/23/2020	7/23/2020	8/31/2020
Comments	(TDS ≤ 2500)									
Volatile Organic Compounds										
Benzene	0.005	0.42 (0.005)	0.36 (0.005)	0.412 (0.005)	0.322 (0.0025)	NA	0.0053 (0.005)	NA	0.22 (0.005)	1.1 (0.05)
Cumene	3.5	0.024 J (0.025)	0.019 J (0.025)	0.0243 (0.001)	0.0232 (0.001)	NA	0.016 J (0.025)	NA	0.012 J (0.025)	0.017 J (0.025)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000028)	ND (0.00002)	ND (0.00002)	ND,H,H3 (0.000029)	NA	ND,H,H3 (0.000029)	NA	ND (0.000029)
1,2-Dichloroethane	0.005	ND (0.005)	0.002 J (0.005)	ND (0.001)	ND (0.001)	NA	ND (0.005)	NA	ND (0.005)	ND (0.005)
Ethyl Benzene	0.7	0.019 (0.005)	0.023 (0.005)	0.0092 (0.001)	0.0064 (0.001)	NA	0.021 (0.005)	NA	0.078 (0.005)	0.066 (0.005)
Methyl tert-butyl ether	0.02	0.0069 (0.005)	0.006 (0.005)	0.0062 (0.001)	0.003 (0.001)	NA	ND (0.005)	NA	ND (0.005)	0.014 (0.005)
Toluene	1	0.12 (0.005)	0.12 (0.005)	0.151 (0.001)	0.147 (0.001)	NA	0.018 (0.005)	NA	0.23 (0.005)	0.062 (0.005)
1,2,4-Trimethylbenzene	0.53	0.041 (0.025)	0.022 J (0.025)	0.0229 (0.002)	0.0081 (0.002)	NA	0.27 (0.025)	NA	0.14 (0.025)	0.14 (0.025)
1,3,5-Trimethylbenzene	0.53	0.028 (0.025)	0.017 J (0.025)	0.0195 (0.002)	0.0118 (0.002)	NA	0.055 (0.025)	NA	0.048 (0.025)	0.065 (0.025)
Xylenes (total)	10	0.18 (0.03)	0.15 (0.03)	0.135 (0.001)	0.0774 (0.001)	NA	0.057 (0.03)	NA	0.46 (0.03)	0.31 (0.03)
Semivolatile Organic Compounds										
Anthracene	0.066	ND (0.00051)	ND (0.00053)	0.0000443 JB (0.000078)	ND (0.00008)	NA	ND (0.0005)	NA	ND (0.00051)	ND (0.00051)
Benzo(a)anthracene	0.0039	ND (0.00051)	ND (0.00053)	ND (0.000039)	ND (0.00004)	NA	ND (0.0005)	NA	ND,B (0.00051)	ND (0.00051)
Benzo(a)pyrene	0.0002	ND (0.00051)	ND (0.00053)	ND (0.000039)	ND (0.00004)	NA	ND (0.0005)	NA	ND (0.00051)	ND (0.00051)
Benzo(b)fluoranthene	0.0012	ND (0.00051)	ND (0.00053)	ND (0.000039)	ND (0.00004)	NA	ND (0.0005)	NA	ND,B (0.00051)	ND (0.00051)
Benzo(g,h,i)perylene	0.00026	ND (0.00051)	ND (0.00053)	ND (0.000078)	ND (0.00008)	NA	ND (0.0005)	NA	ND (0.00051)	ND (0.00051)
Chrysene	0.0019	ND (0.00051)	ND (0.00053)	ND (0.000078)	ND (0.00008)	NA	ND (0.0005)	NA	ND,B (0.00051)	ND (0.00051)
Fluorene	1.9	ND (0.00051)	ND (0.00053)	0.0000418 JB (0.000078)	ND (0.00008)	NA	ND (0.0005)	NA	ND (0.00051)	ND (0.00051)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.0038 (0.00051)	0.0048 (0.00053)	0.00227 B (0.000078)	0.000958 (0.00008)	NA	0.0089 (0.0005)	NA	0.019 (0.00051)	0.014 (0.00051)
Phenanthrene	1.1	ND (0.00051)	ND (0.00053)	0.0000484 JB (0.000078)	ND (0.00008)	NA	ND (0.0005)	NA	ND (0.00051)	0.00012 J (0.00051)
Pyrene	0.13	ND (0.00051)	ND (0.00053)	ND (0.000078)	ND (0.00008)	NA	ND (0.0005)	NA	ND (0.00051)	ND (0.00051)
Metals										
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.00052)	ND (0.00052)	ND (0.001)	ND (0.001)	NA	ND (0.00052)	NA	ND (0.00052)	0.00016 J (0.00052)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
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J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-442	S-442	S-442	S-442_CD	S-442_CD	S-443	S-443	S-443	S-443	S-443_CD	S-443_CD
Field Sample ID	Groundwater MSC	42_20210505_410-38735-1	S-442_20220405_42610	S-442_20230501	CD-5-W-20.0-202007	CD-5-W-44.0-20200715	S-443_20200831	S-443_20210505	S-443_20220405	S-443_20230501	CD-6C-W-19.0-20200720	CD-6C-W-40.0-20200721
Sample Date	Used Aquifer	5/5/2021	4/5/2022	5/1/2023	7/14/2020	7/15/2020	8/31/2020	5/5/2021	4/5/2022	5/1/2023	7/20/2020	7/21/2020
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	1.1 (0.05)	0.356 (0.005)	0.155 (0.0005)	0.015 (0.005)	1.1 (0.05)	0.45 (0.005)	0.13 (0.005)	0.715 (0.0025)	1.35 (0.005)	0.78 (0.005)	0.36 (0.005)
Cumene	3.5	0.015 J (0.025)	0.0126 (0.001)	0.0126 (0.001)	0.042 (0.025)	0.023 J (0.025)	0.011 J (0.025)	0.0073 J (0.025)	0.0117 (0.005)	0.0128 (0.01)	0.02 J (0.025)	0.011 J (0.025)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.00002)	ND (0.000021)	ND (0.000029)	ND (0.000029)	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.000021)	ND (0.000029)	ND (0.000029)
1,2-Dichloroethane	0.005	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)
Ethyl Benzene	0.7	0.018 (0.005)	0.0281 (0.001)	0.0797 (0.001)	0.22 (0.005)	0.17 (0.005)	0.18 (0.005)	0.031 (0.005)	0.0146 (0.005)	0.0202 (0.01)	1 (0.05)	0.18 (0.005)
Methyl tert-butyl ether	0.02	0.013 (0.005)	0.0166 (0.001)	0.0119 (0.001)	ND (0.005)	0.0081 (0.005)	0.011 (0.005)	0.011 (0.005)	0.0147 (0.005)	0.0107 (0.01)	0.0042 J (0.005)	0.011 (0.005)
Toluene	1	0.021 (0.005)	0.0389 (0.001)	0.118 (0.001)	0.11 (0.005)	0.23 (0.005)	0.25 (0.005)	0.0073 (0.005)	0.113 (0.005)	0.171 (0.01)	0.072 (0.005)	0.35 (0.005)
1,2,4-Trimethylbenzene	0.53	0.034 (0.025)	0.0413 (0.002)	0.0184 (0.002)	0.73 (0.025)	0.3 (0.025)	0.43 (0.025)	0.19 (0.025)	0.0663 (0.01)	0.052 (0.02)	0.71 (0.025)	0.39 (0.025)
1,3,5-Trimethylbenzene	0.53	ND (0.025)	0.0056 (0.002)	0.0211 (0.002)	0.23 (0.025)	0.11 (0.025)	0.15 (0.025)	0.004 J (0.025)	0.0079 J (0.01)	0.0393 (0.02)	0.28 (0.025)	0.13 (0.025)
Xylenes (total)	10	0.02 J (0.03)	0.055 (0.001)	0.147 (0.001)	0.97 (0.03)	0.94 (0.03)	1 (0.03)	0.018 J (0.03)	0.0599 (0.005)	0.104 (0.01)	2.4 (0.3)	1 (0.03)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00052)	0.0000454 JB (0.000082)	0.0000488 J (0.00008)	ND (0.0005)	ND,B (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.000074)	0.0000509 J (0.00008)	ND (0.0005)	ND (0.0005)
Benzo(a)anthracene	0.0039	ND (0.00052)	ND (0.000041)	ND (0.00004)	ND (0.0005)	ND,B (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.000037)	ND (0.00004)	ND (0.0005)	ND (0.0005)
Benzo(a)pyrene	0.0002	ND (0.00052)	ND (0.000041)	ND (0.00004)	ND (0.0005)	ND,B (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.000037)	ND (0.00004)	ND (0.0005)	ND (0.0005)
Benzo(b)fluoranthene	0.0012	ND (0.00052)	ND (0.000041)	ND (0.00004)	ND (0.0005)	ND,B (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.000037)	ND (0.00004)	ND (0.0005)	ND (0.0005)
Benzo(g,h,i)perylene	0.00026	ND (0.00052)	ND (0.000082)	ND (0.00008)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.000074)	ND (0.00008)	ND (0.0005)	ND (0.0005)
Chrysene	0.0019	ND (0.00052)	ND (0.000082)	ND (0.00008)	ND (0.0005)	ND,B (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.000074)	ND (0.00008)	ND (0.0005)	ND (0.0005)
Fluorene	1.9	ND (0.00052)	0.0000635 JB (0.000082)	0.0000482 J (0.00008)	0.00056 (0.0005)	ND,B (0.0005)	0.00014 J (0.0005)	ND (0.00051)	0.0000602 JB (0.000074)	0.0000747 J (0.00008)	0.00021 J (0.0005)	0.00013 J (0.0005)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.0016 (0.00052)	0.00235 B (0.000082)	0.00901 (0.0004)	0.083 (0.0005)	0.05 B (0.0005)	0.061 (0.0005)	0.0067 (0.00051)	0.0086 B (0.00074)	0.0294 (0.0008)	0.14 (0.0025)	0.039 (0.0005)
Phenanthrene	1.1	ND (0.00052)	0.0000523 JB (0.000082)	0.0000424 J (0.00008)	0.00075 (0.0005)	0.00016 JB (0.0005)	0.00014 J (0.0005)	ND (0.00051)	0.0000411 JB (0.000074)	0.0000722 J (0.00008)	0.00027 J (0.0005)	0.00011 J (0.0005)
Pyrene	0.13	ND (0.00052)	ND (0.000082)	ND (0.00008)	ND (0.0005)	ND,B (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.000074)	ND (0.00008)	ND (0.0005)	ND (0.0005)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.00052)	ND (0.001)	ND (0.001)	ND (0.00052)	ND (0.00052)	ND (0.00052)	ND (0.00052)	ND (0.001)	ND (0.001)	ND (0.00052)	ND (0.00052)

Notes:

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-444	S-444	S-444	S-444	S-444_CD	S-445	S-445	S-445	S-445	S-445	S-445_CD
Field Sample ID	Groundwater MSC	S-444_20200831	44_20210506_410-39001-1	S-444_20220405_42610	S-444_20230501	CD-13A-W-39.0-20200709	S-445_20200901	45_20210505_410-38735-1	S-445_20220405_42610	S-445_20230501	DUP-2_20230501	CD-13B-W-40.0-20200707
Sample Date	Used Aquifer	8/31/2020	5/6/2021	4/5/2022	5/1/2023	7/9/2020	9/1/2020	5/5/2021	4/5/2022	5/1/2023	5/1/2023	7/7/2020
Comments	(TDS ≤ 2500)										Field Duplicate	
Volatile Organic Compounds												
Benzene	0.005	0.0069 (0.005)	0.0056 (0.005)	0.0127 (0.0005)	0.0072 (0.001)	0.0035 J (0.005)	0.5 (0.005)	0.41 (0.005)	0.312 (0.005)	0.69 (0.0025)	0.678 (0.0025)	0.48 (0.01)
Cumene	3.5	0.067 (0.025)	0.05 (0.025)	0.0733 (0.001)	0.0679 (0.002)	0.085 (0.025)	0.028 (0.025)	0.022 J (0.025)	0.0172 (0.001)	0.0286 (0.005)	0.0289 (0.005)	0.045 (0.005)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.00002)	ND,H (0.000029)	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.000021)	ND (0.000021)	ND (0.000028)
1,2-Dichloroethane	0.005	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.002)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Ethyl Benzene	0.7	0.32 (0.005)	0.54 (0.005)	0.719 (0.01)	0.542 (0.005)	0.43 (0.005)	0.068 (0.005)	0.049 (0.005)	0.0325 (0.001)	0.0658 (0.005)	0.0652 (0.005)	0.059 (0.001)
Methyl tert-butyl ether	0.02	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.002)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Toluene	1	0.11 (0.005)	0.15 (0.005)	0.156 (0.001)	0.128 (0.002)	0.094 (0.005)	0.13 (0.005)	0.1 (0.005)	0.0643 (0.001)	0.137 (0.005)	0.137 (0.005)	0.12 (0.001)
1,2,4-Trimethylbenzene	0.53	0.028 (0.025)	0.024 J (0.025)	0.0197 (0.002)	0.0093 (0.004)	0.024 J (0.025)	0.02 J (0.025)	0.014 J (0.025)	0.0115 (0.002)	0.0084 J (0.01)	0.0083 J (0.01)	0.033 (0.005)
1,3,5-Trimethylbenzene	0.53	0.03 (0.025)	0.025 (0.025)	0.0328 (0.002)	0.0241 (0.004)	0.026 (0.025)	0.012 J (0.025)	0.0081 J (0.025)	0.0077 (0.002)	0.0066 J (0.01)	0.0065 J (0.01)	0.019 (0.005)
Xylenes (total)	10	0.23 (0.03)	0.36 (0.03)	0.348 (0.001)	0.359 (0.002)	0.31 (0.03)	0.11 (0.03)	0.09 (0.03)	0.0842 (0.001)	0.148 (0.005)	0.151 (0.005)	0.13 (0.006)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00051)	ND (0.00052)	ND (0.00008)	0.0000461 J (0.00008)	ND (0.0005)	ND (0.0005)	ND (0.00052)	ND (0.000082)	ND (0.00008)	0.000436 (0.000083)	ND (0.00051)
Benzo(a)anthracene	0.0039	ND (0.00051)	ND (0.00052)	ND (0.00004)	ND (0.00004)	ND (0.0005)	ND (0.0005)	ND (0.00052)	ND (0.000041)	ND (0.00004)	0.000153 (0.000042)	0.00014 J (0.00051)
Benzo(a)pyrene	0.0002	ND (0.00051)	ND (0.00052)	ND (0.00004)	ND (0.00004)	ND (0.0005)	ND (0.0005)	ND (0.00052)	ND (0.000041)	0.000025 J (0.00004)	0.0000488 (0.000042)	ND (0.00051)
Benzo(b)fluoranthene	0.0012	ND (0.00051)	ND (0.00052)	ND (0.00004)	ND (0.00004)	ND (0.0005)	ND (0.0005)	ND (0.00052)	ND (0.000041)	0.0000664 B (0.00004)	0.0000826 B (0.000042)	ND (0.00051)
Benzo(g,h,i)perylene	0.00026	ND (0.00051)	ND (0.00052)	ND (0.00008)	ND (0.00008)	ND (0.0005)	ND (0.0005)	ND (0.00052)	ND (0.000082)	0.00013 (0.00008)	ND (0.000083)	ND (0.00051)
Chrysene	0.0019	ND (0.00051)	ND (0.00052)	ND (0.00008)	ND (0.00008)	ND (0.0005)	ND (0.0005)	ND (0.00052)	ND (0.000082)	ND (0.00008)	0.000141 (0.000083)	0.00036 J (0.00051)
Fluorene	1.9	0.00012 J (0.00051)	0.00016 J (0.00052)	0.000108 B (0.00008)	0.000121 (0.00008)	0.00019 J (0.0005)	ND (0.0005)	ND (0.00052)	0.0000612 JB (0.000082)	0.0000915 (0.00008)	0.000381 (0.000083)	0.00018 J (0.00051)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.033 (0.00051)	0.085 (0.00052)	0.0758 B (0.0008)	0.072 (0.0016)	0.047 (0.0005)	0.024 (0.0005)	0.017 (0.00052)	0.00128 B (0.000082)	0.011 (0.0004)	0.0137 (0.00042)	0.019 (0.00051)
Phenanthrene	1.1	ND (0.00051)	ND (0.00052)	0.0000514 JB (0.00008)	0.000093 (0.00008)	0.00014 J (0.0005)	ND (0.0005)	ND (0.00052)	ND (0.000082)	0.0000722 J (0.00008)	0.000865 (0.000083)	0.00023 J (0.00051)
Pyrene	0.13	ND (0.00051)	ND (0.00052)	ND (0.00008)	ND (0.00008)	ND (0.0005)	ND (0.0005)	ND (0.00052)	ND (0.000082)	ND (0.00008)	0.000519 (0.000083)	0.00019 J (0.00051)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	0.00025 J (0.00052)	ND (0.00052)	ND (0.001)	ND (0.001)	ND (0.00052)	0.00019 J (0.00052)	ND (0.00052)	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.00052)

Notes:

1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:

ND - Not Detected
NA - Not Analyzed
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H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-446	S-446	S-446	S-446	S-446	S-446_CD	S-446_CD	S-447	S-447	S-447	S-447_CD
Field Sample ID	Groundwater MSC	S-446_20200901	DUP-1_410-12585-1	S-446_20210505_410-38735-1	S-446_20220405	S-446_20230501	CD-12-W-25.0-20200618	CD-12-W-45.0-20200619	S-447_20200901	S-447_20210503	S-447_20220406_42842	CD-10-W-38.0-20200623
Sample Date	Used Aquifer	9/1/2020	9/1/2020	5/5/2021	4/5/2022	5/1/2023	6/18/2020	6/19/2020	9/1/2020	5/3/2021	4/6/2022	6/23/2020
Comments	(TDS ≤ 2500)		Field Duplicate									
Volatile Organic Compounds												
Benzene	0.005	ND (0.005)	ND (0.005)	0.0012 J (0.005)	0.00046 J (0.0005)	ND (0.0005)	ND (0.001)	ND (0.001)	0.1 (0.005)	0.22 (0.005)	0.594 (0.0025)	0.23 H (0.005)
Cumene	3.5	0.059 (0.025)	0.054 (0.025)	0.049 (0.025)	0.057 (0.001)	0.0374 (0.001)	0.0092 (0.005)	0.044 (0.005)	0.026 (0.025)	0.015 J (0.025)	0.0425 (0.005)	0.036 H (0.025)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.00002)	ND (0.000029)	ND (0.000029)	ND (0.000029)	ND (0.000029)	ND (0.00002)	ND (0.000029)
1,2-Dichloroethane	0.005	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND,H (0.005)
Ethyl Benzene	0.7	0.18 (0.005)	0.17 (0.005)	0.17 (0.005)	0.197 (0.001)	0.129 (0.001)	0.0037 (0.001)	0.16 (0.001)	0.5 (0.005)	0.31 (0.005)	0.794 (0.005)	0.28 H (0.005)
Methyl tert-butyl ether	0.02	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND,H (0.005)
Toluene	1	0.066 (0.005)	0.059 (0.005)	0.081 (0.005)	0.107 (0.001)	0.0997 (0.001)	0.00081 J (0.001)	0.078 (0.001)	0.95 (0.005)	0.45 (0.005)	1.19 (0.01)	0.33 H (0.005)
1,2,4-Trimethylbenzene	0.53	0.0058 J (0.025)	0.0053 J (0.025)	ND (0.025)	0.0031 (0.002)	0.0013 J (0.002)	ND (0.005)	0.0067 (0.005)	0.15 (0.025)	0.12 (0.025)	0.25 (0.01)	0.16 H (0.025)
1,3,5-Trimethylbenzene	0.53	0.0099 J (0.025)	0.0087 J (0.025)	0.0033 J (0.025)	0.0028 (0.002)	0.0029 (0.002)	0.00053 J (0.005)	0.009 (0.005)	0.047 (0.025)	0.04 (0.025)	0.0759 (0.01)	0.059 H (0.025)
Xylenes (total)	10	0.2 (0.03)	0.18 (0.03)	0.19 (0.03)	0.146 (0.001)	0.182 (0.001)	ND (0.006)	0.16 (0.006)	1.7 (0.03)	0.71 (0.03)	2.49 (0.01)	1.4 H (0.03)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00008)	0.0000657 J (0.000083)	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)	0.000044 JB (0.00008)	0.00072 (0.00051)
Benzo(a)anthracene	0.0039	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00004)	ND (0.000042)	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00004)	ND (0.00051)
Benzo(a)pyrene	0.0002	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00004)	ND (0.000042)	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00004)	ND,TL (0.00051)
Benzo(b)fluoranthene	0.0012	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00004)	ND (0.000042)	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00004)	ND,TL (0.00051)
Benzo(g,h,i)perylene	0.00026	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00008)	ND (0.000083)	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00008)	ND,TL (0.00051)
Chrysene	0.0019	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00008)	ND (0.000083)	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00008)	ND (0.00051)
Fluorene	1.9	0.00028 J (0.0005)	0.00029 J (0.0005)	0.00022 J (0.00051)	0.000103 B (0.00008)	0.000226 (0.000083)	NA	0.00019 J (0.0005)	ND (0.0005)	ND (0.00051)	0.000211 B (0.00008)	0.0025 (0.00051)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.054 (0.0005)	0.056 (0.0005)	0.053 (0.00051)	0.0251 B (0.0008)	0.0524 (0.0017)	0.0018 J (0.005)	0.058 (0.0005)	0.084 (0.0005)	0.031 (0.00051)	0.11 (0.0016)	0.26 (0.0025)
Phenanthrene	1.1	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00008)	0.0000814 J (0.000083)	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)	0.0000774 J (0.00008)	0.0042 (0.00051)
Pyrene	0.13	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00008)	0.0000717 J (0.000083)	NA	ND (0.0005)	ND (0.0005)	ND (0.00051)	ND (0.00008)	0.00035 J (0.00051)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.00052)	ND (0.00052)	ND (0.00052)	ND (0.001)	ND (0.001)	ND (0.00053)	ND,H (0.00052)	0.001 (0.0005)	ND (0.00052)	ND (0.001)	ND (0.00052)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
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3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-447_CD	S-448	S-448	S-448	S-448	S-448_CD	S-45	S-45	S-5	S-5	S-5
Field Sample ID	Groundwater MSC	CD-10-W-45.0-20200624	S-448_20200902	S-448_20210506	S-448_20220408	S-448_20230501	CD-14-W-23.0-20200811	S-45_091709	S-45_120909	S-5_072110	AOI3_S-5_010816	AOI3-S-5-030916
Sample Date	Used Aquifer	6/24/2020	9/2/2020	5/6/2021	4/8/2022	5/1/2023	8/11/2020	9/17/2009	12/9/2009	7/21/2010	1/8/2016	3/9/2016
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	0.27 H (0.01)	0.00023 J (0.001)	0.0035 (0.001)	ND (0.0005)	ND (0.0005)	0.018 J (0.02)	0.023 (0.001)	ND (0.001)	ND (0.001)	0.00032 J,SL (0.0005)	ND,SL (0.001)
Cumene	3.5	0.042 H (0.005)	0.0017 J (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	0.054 J (0.1)	0.01 (0.002)	ND (0.002)	0.013 (0.002)	0.0112 SL (0.001)	0.0013 SL (0.001)
1,2-Dibromoethane	0.00005	ND (0.000029)	ND (0.000029)	ND (0.000028)	ND (0.00002)	ND (0.00002)	ND (0.00003)	ND (0.001)	ND (0.000029)	ND (0.000029)	ND,SL (0.000019)	ND,SL (0.00004)
1,2-Dichloroethane	0.005	ND,H (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.02)	ND (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.001)	ND,SL (0.001)
Ethyl Benzene	0.7	0.086 H (0.001)	0.0067 (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	1.4 (0.02)	0.001 (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.001)	ND,SL (0.001)
Methyl tert-butyl ether	0.02	ND,H (0.001)	0.003 (0.001)	0.0029 (0.001)	0.0018 (0.001)	0.0018 (0.001)	ND (0.02)	ND (0.001)	ND (0.001)	0.001 (0.001)	0.0011 SL (0.001)	ND,SL (0.001)
Toluene	1	0.21 H (0.01)	0.00047 J (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.7 (0.02)	0.002 (0.001)	ND (0.001)	ND (0.001)	0.0002 J,SL (0.001)	ND,SL (0.001)
1,2,4-Trimethylbenzene	0.53	0.057 H (0.005)	0.0017 J (0.005)	ND (0.005)	ND (0.002)	ND (0.002)	0.8 (0.1)	NA	NA	ND (0.002)	0.0018 J,SL (0.002)	ND,SL (0.001)
1,3,5-Trimethylbenzene	0.53	0.022 H (0.005)	0.0033 J (0.005)	ND (0.005)	ND (0.002)	ND (0.002)	0.32 (0.1)	NA	NA	ND (0.002)	0.0007 J,SL (0.002)	ND,SL (0.001)
Xylenes (total)	10	0.4 H (0.06)	0.0052 J (0.006)	ND (0.006)	ND (0.001)	ND (0.001)	3 (0.12)	0.002 (0.001)	ND (0.001)	0.002 (0.001)	0.002 SL (0.001)	ND,SL (0.003)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.00051)	0.00014 J (0.0005)	ND (0.00052)	0.000145 (0.000071)	0.000165 (0.00008)	0.00019 J (0.00051)	NA	NA	NA	0.000339 SL (0.00011)	0.00094 SL (0.0001)
Benzo(a)anthracene	0.0039	ND (0.00051)	ND (0.0005)	ND (0.00052)	0.0000331 J (0.000036)	ND (0.00004)	0.00026 J (0.00051)	NA	NA	NA	ND,SL (0.000056)	0.000071 J,SL (0.0001)
Benzo(a)pyrene	0.0002	ND (0.00051)	ND (0.0005)	ND (0.00052)	0.0000226 J (0.000036)	ND (0.00004)	0.0002 J (0.00051)	NA	NA	NA	ND,SL (0.000056)	0.000049 J,SL (0.0001)
Benzo(b)fluoranthene	0.0012	ND (0.00051)	ND (0.0005)	ND (0.00052)	0.0000214 J (0.000036)	ND (0.00004)	0.0002 J (0.00051)	NA	NA	NA	ND,SL (0.00011)	0.00016 SL (0.0001)
Benzo(g,h,i)perylene	0.00026	ND (0.00051)	ND (0.0005)	ND (0.00052)	ND (0.000071)	ND (0.00008)	0.0001 J (0.00051)	NA	NA	NA	ND,SL (0.00011)	0.000059 J,SL (0.0001)
Chrysene	0.0019	ND (0.00051)	ND (0.0005)	ND (0.00052)	ND (0.000071)	ND (0.00008)	0.0003 J (0.00051)	ND (0.005)	ND (0.005)	ND (0.005)	ND,SL (0.00011)	0.00028 SL (0.0001)
Fluorene	1.9	0.00031 J (0.00051)	ND (0.0005)	ND (0.00052)	0.000144 (0.000071)	0.0000467 J (0.00008)	0.00028 J (0.00051)	ND (0.005)	ND (0.005)	0.005 (0.005)	0.00231 SL (0.00011)	0.0026 SL (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	0.061 (0.00051)	0.0012 (0.0005)	ND (0.00052)	ND (0.000071)	0.0000538 J (0.00008)	0.38 (0.0051)	ND (0.005)	ND (0.005)	ND (0.005)	ND,SL (0.00011)	0.00082 SL (0.0001)
Phenanthrene	1.1	ND (0.00051)	0.00026 J (0.0005)	ND (0.00052)	0.000187 (0.000071)	0.0000635 J (0.00008)	0.001 (0.00051)	ND (0.005)	ND (0.005)	ND (0.005)	0.00101 SL (0.00011)	0.0013 SL (0.0001)
Pyrene	0.13	ND (0.00051)	ND (0.0005)	ND (0.00052)	0.000158 (0.000071)	0.0000608 J (0.00008)	0.00035 J (0.00051)	ND (0.005)	ND (0.005)	ND (0.005)	0.000319 SL (0.00011)	0.00065 SL (0.0001)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	0.00046 J (0.00052)	ND (0.0005)	ND (0.00052)	ND (0.001)	ND (0.001)	ND (0.00052)	ND (0.000001)	ND (0.000001)	ND (0.000001)	0.0036 SL (0.003)	ND,SL (0.005)

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Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-57	S-57	S-57	S-60	S-60	S-61	S-61	S-9	S-9	S-9	S-9
Field Sample ID	Groundwater MSC	S-57_06_12_2013	S-57-20160816-WG	S-57-20161013-WG	AOI3_S-60_010816	AOI3-S-60-030916	S-61-20160819-WG	S-61-20161004-WG	S-9_112509	S-9_072110	AOI3-S-9_082213	AOI3_S-9_061215
Sample Date	Used Aquifer	6/12/2013	8/15/2016	10/13/2016	1/8/2016	3/9/2016	8/19/2016	10/4/2016	11/25/2009	7/21/2010	8/22/2013	6/12/2015
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	ND (0.001)	ND (0.001)	ND (0.001)	0.00039 J,SL (0.0005)	0.00017 J,SL (0.001)	ND,SL (0.001)	ND,SL (0.005)	0.007 (0.001)	ND (0.001)	ND (0.001)	0.0007 J (0.001)
Cumene	3.5	ND (0.002)	0.00347 (0.001)	0.00144 (0.001)	0.0381 SL (0.001)	0.0426 SL (0.001)	0.00091 J,SL (0.001)	0.006 SL (0.005)	ND (0.002)	ND (0.002)	ND (0.002)	0.0016 (0.001)
1,2-Dibromoethane	0.00005	ND (0.00002)	ND (0.00001)	ND (0.00001)	ND,SL (0.000019)	ND,SL (0.00004)	ND,SL (0.00004)	ND,SL (0.00004)	ND (0.00003)	ND (0.000029)	ND (0.00002)	0.000097 (0.00004)
1,2-Dichloroethane	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND,SL (0.001)	ND,SL (0.001)	ND,SL (0.001)	ND,SL (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	0.7	ND (0.001)	0.00439 (0.001)	ND (0.001)	ND,SL (0.001)	ND,SL (0.001)	ND,SL (0.001)	ND,SL (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.00057 J (0.001)
Methyl tert-butyl ether	0.02	ND (0.001)	ND (0.001)	ND (0.001)	0.0042 SL (0.001)	0.0041 SL (0.001)	ND,SL (0.001)	ND,SL (0.005)	0.012 (0.001)	0.008 (0.001)	0.0042 (0.001)	0.0156 (0.001)
Toluene	1	ND (0.001)	ND (0.005)	ND (0.005)	0.00024 J,SL (0.001)	0.00037 J,SL (0.001)	0.00023 J,SL (0.001)	ND,SL (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.0019 (0.001)
1,2,4-Trimethylbenzene	0.53	ND (0.002)	0.0112 (0.001)	ND (0.001)	0.00024 J,SL (0.002)	ND,SL (0.001)	0.0002 J,SL (0.001)	ND,SL (0.005)	ND (0.002)	ND (0.002)	ND (0.002)	0.0015 (0.001)
1,3,5-Trimethylbenzene	0.53	ND (0.002)	0.004 (0.001)	ND (0.001)	0.00031 J,SL (0.002)	ND,SL (0.001)	ND,SL (0.001)	ND,SL (0.005)	ND (0.002)	ND (0.002)	ND (0.002)	0.00043 J (0.001)
Xylenes (total)	10	ND (0.001)	0.0123 (0.003)	ND (0.003)	0.0012 SL (0.001)	0.00089 J,SL (0.003)	ND,SL (0.003)	ND,SL (0.015)	ND (0.001)	ND (0.001)	ND (0.001)	0.0037 (0.003)
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.0001)	0.000255 (0.00005)	ND (0.00005)	ND,SL (0.00011)	0.0034 SL (0.001)	0.0127 SL (0.001)	0.0027 SL (0.0012)	NA	NA	ND (0.0001)	0.00018 (0.0001)
Benzo(a)anthracene	0.0039	ND (0.0001)	ND (0.00005)	ND (0.00005)	0.000075 SL (0.000056)	0.0012 SL (0.001)	0.0023 SL (0.001)	0.001 J,SL (0.0012)	NA	NA	ND (0.0001)	ND (0.0001)
Benzo(a)pyrene	0.0002	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND,SL (0.000056)	0.0007 J,SL (0.001)	0.0031 SL (0.001)	0.00077 J,SL (0.0012)	NA	NA	ND (0.0001)	ND (0.0001)
Benzo(b)fluoranthene	0.0012	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND,SL (0.00011)	0.0012 SL (0.001)	0.0045 SL (0.001)	0.0013 SL (0.0012)	NA	NA	ND (0.0001)	ND (0.0001)
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	ND (0.00005)	ND (0.00005)	ND,SL (0.00011)	0.00026 J,SL (0.001)	0.0017 SL (0.001)	0.00036 J,SL (0.0012)	NA	NA	ND (0.0001)	ND (0.0001)
Chrysene	0.0019	0.000176 (0.0001)	ND (0.00005)	ND (0.00005)	ND,SL (0.00011)	0.0015 SL (0.001)	0.0102 SL (0.001)	0.003 SL (0.0012)	ND (0.005)	ND (0.005)	ND (0.0001)	ND (0.0001)
Fluorene	1.9	0.00426 (0.0001)	0.00105 (0.00005)	0.00161 (0.00005)	0.000465 SL (0.00011)	0.0062 SL (0.001)	0.0131 SL (0.001)	0.008 SL (0.0012)	ND (0.005)	ND (0.005)	ND (0.0001)	0.00031 (0.0001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	ND (0.00005)	ND (0.00005)	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	ND (0.0001)	0.00232 (0.00025)	ND (0.00025)	ND,SL (0.00011)	0.0063 SL (0.001)	0.0154 SL (0.001)	0.0068 SL (0.0012)	ND (0.005)	ND (0.005)	ND (0.0001)	0.00033 (0.0001)
Phenanthrene	1.1	0.00416 (0.0001)	0.00174 (0.00005)	0.00184 (0.00005)	0.000318 SL (0.00011)	0.0101 SL (0.001)	0.0206 SL (0.001)	0.0161 SL (0.0012)	ND (0.005)	ND (0.005)	ND (0.0001)	0.0001 J (0.0001)
Pyrene	0.13	0.000768 (0.0001)	0.000284 (0.00005)	0.000228 (0.00005)	0.000219 SL (0.00011)	0.0047 SL (0.001)	0.0225 SL (0.001)	0.0057 SL (0.0012)	ND (0.005)	ND (0.005)	ND (0.0001)	ND (0.0001)
Metals												
Lead	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.003)	ND (0.002)	ND (0.002)	ND,SL (0.003)	ND,SL (0.005)	ND,SL (0.005)	ND,SL (0.005)	ND (0.001)	ND (0.000001)	0.0039 (0.003)	ND (0.005)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:
ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-9	S-95	S-95	S-95	S-95	S-95	S-95	S-95	S-96	S-96	S-96
Field Sample ID	Groundwater MSC	AOI3_S-9_123015	S95D-041505	S-95_06/23/2009	S-95_120909	S-95_071912	S-95~JB67747	S-95-20141208	S-95_20220325	S-96	S96-080105	S-96_06_14_2013
Sample Date	Used Aquifer	12/30/2015	4/15/2005	6/23/2009	12/9/2009	7/19/2012	5/23/2014	12/8/2014	3/25/2022	10/20/2004	8/1/2005	6/14/2013
Comments	(TDS ≤ 2500)											
Volatile Organic Compounds												
Benzene	0.005	ND (0.0005)	NA	NA	0.002 (0.001)	0.003 (0.001)	ND (0.0005)	0.0026 (0.0005)	0.0022 (0.0005)	ND (0.001)	ND (0.005)	0.00046 J (0.001)
Cumene	3.5	ND (0.001)	NA	NA	0.032 (0.002)	0.088 (0.002)	0.0035 (0.001)	0.0904 (0.001)	0.0788 (0.001)	ND (0.005)	ND (0.005)	0.00046 J (0.002)
1,2-Dibromoethane	0.00005	ND (0.000019)	NA	NA	ND (0.00003)	ND (0.000029)	ND (0.00002)	ND (0.00002)	ND (0.00002)	NA	ND (0.000029)	ND (0.00002)
1,2-Dichloroethane	0.005	ND (0.001)	NA	NA	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Ethyl Benzene	0.7	ND (0.001)	NA	NA	ND (0.001)	0.0007 J (0.001)	ND (0.001)	0.00055 J (0.001)	0.00066 J (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Methyl tert-butyl ether	0.02	0.0089 (0.001)	NA	NA	0.002 (0.001)	0.005 (0.001)	0.00092 J (0.001)	0.0074 (0.001)	0.0031 (0.001)	ND (0.005)	ND (0.005)	0.0012 (0.001)
Toluene	1	ND (0.001)	NA	NA	ND (0.001)	0.002 (0.001)	ND (0.001)	0.0015 (0.001)	0.0015 (0.001)	ND (0.005)	ND (0.005)	0.0011 (0.001)
1,2,4-Trimethylbenzene	0.53	0.00033 J (0.002)	NA	NA	NA	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	NA	NA	ND (0.002)
1,3,5-Trimethylbenzene	0.53	ND (0.002)	NA	NA	NA	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	NA	NA	ND (0.002)
Xylenes (total)	10	0.00046 J (0.001)	NA	NA	0.002 (0.001)	0.004 (0.001)	ND (0.001)	0.0031 (0.001)	0.0029 (0.001)	ND (0.01)	ND (0.005)	0.00025 J (0.001)
Semivolatile Organic Compounds												
Anthracene	0.066	0.000228 (0.0001)	NA	NA	NA	0.0004 J (0.0005)	ND (0.0001)	0.000127 (0.0001)	0.000115 (0.000069)	NA	NA	ND (0.001)
Benzo(a)anthracene	0.0039	ND (0.00005)	NA	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.000034)	NA	NA	ND (0.001)
Benzo(a)pyrene	0.0002	ND (0.00005)	NA	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.000034)	NA	NA	ND (0.001)
Benzo(b)fluoranthene	0.0012	ND (0.0001)	NA	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.000034)	NA	NA	ND (0.001)
Benzo(g,h,i)perylene	0.00026	ND (0.0001)	NA	NA	NA	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.000069)	NA	NA	ND (0.001)
Chrysene	0.0019	ND (0.0001)	NA	NA	ND (0.005)	0.0001 J (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.000069)	NA	ND (0.005)	ND (0.001)
Fluorene	1.9	0.000135 (0.0001)	NA	NA	ND (0.005)	0.003 (0.0005)	0.000248 (0.0001)	0.00224 (0.0001)	0.00143 (0.000069)	NA	ND (0.005)	0.00416 (0.001)
Indeno(1,2,3-cd)pyrene	0.0023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.1	ND (0.0001)	NA	NA	ND (0.005)	0.003 (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.000069)	ND (0.005)	ND (0.005)	ND (0.001)
Phenanthrene	1.1	0.000151 (0.0001)	NA	NA	ND (0.005)	0.002 (0.0005)	0.00012 (0.0001)	0.00128 (0.0001)	0.000985 (0.000069)	NA	ND (0.005)	ND (0.001)
Pyrene	0.13	0.000157 (0.0001)	NA	NA	ND (0.005)	0.0003 J (0.0005)	ND (0.0001)	ND (0.0001)	0.0000482 J (0.000069)	NA	ND (0.005)	0.00311 (0.001)
Metals												
Lead	0.005	NA	ND (0.001)	ND (0.001)	NA	NA	NA	NA	NA	NA	ND (0.001)	NA
Lead (Dissolved)	0.005	ND (0.003)	NA	NA	ND (0.000001)	0.00016 J (0.001)	ND (0.003)	0.0024 J (0.003)	ND (0.001)	NA	NA	0.0029 J (0.003)

Notes:
1 All concentrations reported in mg/L (ppm); detection limits in parentheses.
2 Only the five most recent analyses at each well for Short List 1-6 analytes are shown.
3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

Abbreviations:
ND - Not Detected
NA - Not Analyzed
B - Indicates the analte is detected in the associated blank as well as in the sample
H - Threshold Limit Value
H3 - Sample was received and analyzed past holding time
J - Estimated Concentration
J+ - Indicates an estimated value that is biased high
J- - Indicates an estimated value that is biased low
MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Table D2
Historical Groundwater Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-96	S-97	S-97	S-97	S-97	S-97	Steen-MW-64	Steen-MW-64	Steen-MW-64	Steen-MW-64	Steen-MW-64
Field Sample ID	Groundwater MSC	S-96-20160817-WG	S-97	S97-050405	S-97_06_13_2013	S-97-20160817-WG	S-97-20161013-WG	STEEN-MW-64(07-12-12)	STEEN-MW-64_05-09-2017	STEEN-MW-64_20191203	STEEN-MW-64_20220413	STEEN-MW-64_20220413FD
Sample Date	Used Aquifer	8/17/2016	10/20/2004	5/4/2005	6/13/2013	8/17/2016	10/13/2016	7/12/2012	5/9/2017	12/3/2019	4/13/2022	4/13/2022
Comments	(TDS ≤ 2500)											Field Duplicate
Volatile Organic Compounds												
Benzene	0.005	0.0454 (0.005)	0.29	0.6 (0.05)	0.0028 (0.001)	ND (0.005)	ND (0.005)	11 XQ (0.5)	7.19	6.18	5.5	5.5
Cumene	3.5	0.0259 (0.005)	0.023	ND (0.05)	0.0048 (0.002)	0.00592 (0.005)	ND (0.005)	ND (0.5)	0.0244	0.0595	0.011 J	0.012 J
1,2-Dibromoethane	0.00005	ND (0.00001)	ND (0.00002)	ND (0.000028)	ND (0.00002)	ND (0.00001)	ND (0.00001)	ND (0.00002)	ND (0.0000099)	ND (0.00001)	ND (0.000028)	ND (0.000028)
1,2-Dichloroethane	0.005	ND (0.005)	0.004	ND (0.05)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.5)	ND (0.01)	ND (0.015)	ND (0.01)	ND (0.01)
Ethyl Benzene	0.7	0.0601 (0.005)	0.055	0.063 (0.05)	0.0019 (0.001)	ND (0.005)	ND (0.005)	ND (0.5)	0.0248	0.0337	0.0091 J	0.01
Methyl tert-butyl ether	0.02	ND (0.005)	ND (0.0018)	ND (0.05)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.5)	ND (0.01)	ND (0.015)	0.0062 J	0.0065 J
Toluene	1	0.0511 (0.025)	0.019	ND (0.05)	0.00068 J (0.001)	ND (0.025)	ND (0.025)	0.092 XQ (0.5)	0.0818	0.0783	0.057	0.058
1,2,4-Trimethylbenzene	0.53	0.00843 (0.005)	NA	NA	0.0093 (0.002)	0.00642 (0.005)	ND (0.005)	ND (0.5)	ND (0.02)	ND (0.03)	ND (0.05)	ND (0.05)
1,3,5-Trimethylbenzene	0.53	0.0192 (0.005)	NA	NA	0.01 (0.002)	0.0122 (0.005)	0.0058 (0.005)	ND (0.5)	ND (0.01)	ND (0.03)	0.0032 J	0.0033 J
Xylenes (total)	10	0.082 (0.015)	0.16	0.23 (0.05)	0.0047 (0.001)	ND (0.015)	ND (0.015)	ND (1.5)	0.0698	0.0736	0.049	0.052
Semivolatile Organic Compounds												
Anthracene	0.066	ND (0.001)	NA	NA	ND (0.0001)	0.00117 (0.0001)	ND (0.0001)	NA	NA	NA	NA	NA
Benzo(a)anthracene	0.0039	ND (0.001)	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.0002	ND (0.001)	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	0.0012	ND (0.001)	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.00026	ND (0.001)	NA	NA	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	NA	NA	NA	NA
Chrysene	0.0019	ND (0.001)	ND (0.00014)	ND (0.01)	ND (0.0001)	ND (0.0001)	ND (0.0001)	NA	NA	NA	NA	NA
Fluorene	1.9	0.00247 (0.001)	ND (0.01)	0.025 (0.01)	0.00139 (0.0001)	0.00319 (0.0001)	0.00268 (0.0001)	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.0023	ND (0.001)	NA	NA	NA	ND (0.0001)	ND (0.0001)	NA	NA	NA	NA	NA
Naphthalene	0.1	0.00577 (0.005)	0.055	0.11 (0.01)	ND (0.0001)	0.0009 (0.0005)	ND (0.0005)	ND (0.5)	ND (0.04)	ND (0.06)	ND (0.05)	ND (0.05)
Phenanthrene	1.1	0.00321 (0.001)	ND (0.01)	0.047 (0.01)	0.00221 (0.0001)	0.00535 (0.0001)	0.00364 (0.0001)	NA	NA	NA	NA	NA
Pyrene	0.13	ND (0.001)	ND (0.01)	ND (0.01)	0.000434 (0.0001)	0.00151 (0.0001)	0.000577 (0.0001)	NA	NA	NA	NA	NA
Metals												
Lead	0.005	NA	NA	ND (0.001)	NA	NA	NA	NA	NA	NA	NA	NA
Lead (Dissolved)	0.005	ND (0.002)	ND (0.005)	NA	0.0214 (0.003)	0.00491 (0.002)	ND (0.002)	0.00036 J (0.001)	ND (0.002)	ND (0.002)	0.0002 J	0.00025 J

Notes:
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3 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer (TDS ≤ 2500).

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MS - Sample name resulting from field sample naming or data entry does not reflect the correct location of collection. The location assigned to the sample name is correct.
OE - The associated batch QC was outside the established quality control range for precision/accuracy.
SL - Sample was collected below LNAPL
TL - Internal standard response or retention time outside acceptable limits
XQ - Indeterminate qualifier

Appendix F

Tank Registration Amendment Forms

REPSG
React Environmental
Professional Services Group, Inc.

June 21, 2021

Pennsylvania Department of Environmental Protection
Southeast Regional Office
Division of Storage Tanks
2 East Main Street
Norristown, Pennsylvania 19401
Attn: Mr. Ron Estel
restel@pa.gov

Re: Philadelphia Energy Solutions Refining and Marketing, LLC (PES)
PADEP Storage Tanks Registration/ Permitting Application Form
PADEP Facility ID #51-33620 - Point Breeze Refinery

Mr. Estel:

On behalf of our client, Northstar, enclosed please find JD2 Environmental, Inc.'s (JD2's) submittal of the Pennsylvania Department of Environmental Protection's (PADEP's) Storage Tank Registration/ Permitting Application Forms to change the status to permanently closed for ten (10) tanks located at the Philadelphia Energy Solutions Refining and Marketing, LLC site.

Facility Name	PADEP Facility ID #	PADEP Tank ID #	Owner Tank ID #	AMS Tank ID #	Removal Date
Point Breeze Refinery	51-33620	056A	PB 882	P-600 (PB)	5/20/2021
Point Breeze Refinery	51-33620	002A	PB 33	P-507 (PB)	5/21/2021
Point Breeze Refinery	51-33620	029A	PB 84	P-519 (PB)	5/26/2021
Point Breeze Refinery	51-33620	938A	PB 178	P-541 (PB)	5/27/2021
Point Breeze Refinery	51-33620	039A	PB 179	P-542 (PB)	6/04/2021
Point Breeze Refinery	51-33620	028A	PB 43	P-516 (PB)	6/07/2021
Point Breeze Refinery	51-33620	027A	PB 42	P-515 (PB)	6/09/2021
Point Breeze Refinery	51-33620	004A	PB 83	P-518 (PB)	6/10/2021
Point Breeze Refinery	51-33620	085A	PB 1224	N/A	6/11/2021
Point Breeze Refinery	51-33620	025A	PB 39	P-513 (PB)	6/16/2021

P.O. Box 5377
6901 Kingsessing Avenue, Suite 201
Philadelphia, PA 19142-0377

Office: 215.729.3220
Fax: 215.729.1557
www.repsg.com

If you have any questions, please do not hesitate to contact me at 215-852-9226.

Respectfully Submitted,
React Environmental Professional Services Group, Inc.

Jerry F. Naples, Jr.
Principal

Enclosures: JD2 letter
Storage Tank Registration Amendment Forms (Point Breeze)

cc:

Robert Armstrong (Northstar)
Gary Bowman (Northstar)
Kassahun Sellassie (AMS)
Charles Barksdale (Hilco)
Kris Satterthwaite (JD2 Environmental)
Thomas Barsley (AMS)
Edward Wiener (AMS)
Mike Leonardo (Hilco)

JD2 Environmental Inc.
800 East Washington Street • West Chester, PA 19380 • 610.430.8151 • 610.430.8016 Fax • www.jd2env.com

June 21, 2021

VIA EMAIL (ELECTRONIC SUBMISSION)

Pennsylvania Department of Environmental Protection
Central Office - Division of Storage Tanks
Rachel Carson State Office Building
400 Market Street
Harrisburg, Pennsylvania 17101

Subject: **Philadelphia Energy Solutions Refining and Marketing, LLC (PES)**
PADEP Storage Tanks Registration/Permitting Application Form
PADEP Facility ID #51-33620 - Point Breeze Refinery

Dear PADEP:

On behalf of our client, JD2 Environmental, Inc. (JD2) is attaching the Pennsylvania Department of Environmental Protection's (PADEP's) Storage Tanks Registration/Permitting Application Form for the removal of the following aboveground storage tanks (ASTs):

Facility Name	PADEP Facility ID #	PADEP Tank ID #	Owner Tank ID #	AMS Tank ID #	Removal Date
Point Breeze Refinery	51-33620	027A	PB 42	P-515	6/09/2021
Point Breeze Refinery	51-33620	004A	PB 83	P-518	6/10/2021
Point Breeze Refinery	51-33620	085A	PB 1224	N/A	6/11/2021
Point Breeze Refinery	51-33620	025A	PB 39	P-513	6/16/2021

If you have any questions regarding this submittal, please do not hesitate to contact me at (610) 430-8151.

Sincerely yours,

JD2 ENVIRONMENTAL, INC.

Kristian Satterthwaite
Environmental Scientist
PADEP Inspector #5081

KS:wc
Attachment

cc: REPSG

2630-PM-BECB0514 Rev. 6/2019
Form

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS

STORAGE TANKS REGISTRATION / PERMITTING APPLICATION FORM

Before completing this form, read the step-by-step instructions provided in this application package.

	DEP USE ONLY
	Client ID#
51-33620 Facility ID #	Site ID#
	Account #
	Auth ID#
Phila Ref Point Breeze Facility Name	APS ID#
	Master Auth ID#

I. PURPOSE OF SUBMITTAL

INITIAL (Applies to First-Time Facility Registration)

- ☐ Register Tanks(s) to be Used*
- ☐ Register Tank(s) to be Removed
- ☐ Register Tank(s) to be Temporarily Out of Use
- ☐ Register Tank(s) to be Closed in Place

AMENDED (Applies to Currently Registered Tank(s) or Existing Facility)

- ☐ Changed Owner Information
- ☐ Changed Facility Information
- ☐ Changed to Currently In Use Tank(s)*
- ☐ Changed to Temporarily Out of Use Tank(s)
- ☐ Changed Product
- ☐ Changed Contact Information
- ☐ Changed Facility Operator Information
- ☐ Added Tank(s) to Existing Facility*
- ☒ Changed to Permanently Closed Tank(s)/Removed
- ☐ Changed to Exempt Tank(s)

CHANGE OF OWNERSHIP

- ☐ Tanks Changed Ownership and Remain at Same Facility*

* **For Underground Storage Tanks (UST), attach the UST Operator Training Documentation Form (2630-PM-BECB0514a) and copies of the Class A and Class B operator training certificates.**

II. CURRENT OR NEW TANK OWNER / CLIENT INFORMATION

DEP Client ID#	Client Type/Code	Fee Kind (check one if applicable)		
298341		☐ Volunteer Fire Co/EMS Org	☐ State Govt	☐ Fed Govt

Organization Name or Registered Fictitious Name		Employer ID# (EIN)		Dun & Bradstreet ID#
Philadelphia Energy Solutions Refining and Marketing, LLC				
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Bowman	Gary	P	Sr	
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Mailing Address Line 1	**Mailing Address Line 2**			
3144 W. Passyunk Ave				
Address Last Line – City	**State**	**ZIP+4**	**Country**	
Philadelphia	PA	19141-5299	USA	
Client Contact Last Name	**First Name**	**MI**	**Suffix**	
Bowman	Gary	P	Sr	
Client Contact Title		**Phone**	**Ext**	
President		610 636-4574		
E-mail Address			**FAX**	
Gbowman@northstar.com				

III. SITE INFORMATION

DEP Site ID# | Site Name

EPA ID# | Estimated Number of Employees to be Present at Site

Description of Site

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

Site Location Line 1 | Site Location Line 2

Site Location Last Line – City | State | ZIP+4

Detailed Written Directions to Site

Site Contact Last Name | First Name | MI | Suffix

Site Contact Title | Site Contact Firm

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4

Phone | Ext | FAX | E-mail Address

NAICS Codes (Two- & Three-Digit Codes – List All That Apply) | 6-Digit Code (Optional)

Site to Client Relationship

IIIa. PROPERTY OWNER INFORMATION

☐ Same as Tank Owner Identified in Section II. ☐ Different than Tank Owner Identified in Section II; identified below.

Organization Name or Registered Fictitious Name | Employer ID# (EIN) | Dun & Bradstreet ID#

Individual Last Name | First Name | MI | Suffix | SSN

Additional Individual Last Name | First Name | MI | Suffix | SSN

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4 | Country

Property Owner Contact Last Name | First Name | MI | Suffix

Property Owner Contact Title | Phone | Ext

E-mail Address | FAX

IV. FACILITY INFORMATION

DEP Storage Tank Facility ID# | **Facility Name** | **Facility Kind**

Facility Location Line 1 (if different than Site Location) | **Facility Location Line 2**

Facility Location Last Line - City | **State** | **ZIP+4**

Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**

Horizontal Accuracy Measure Feet *--or--* Meters

Horizontal Reference Datum Code
- ☐ North American Datum of 1927
- ☐ North American Datum of 1983
- ☐ World Geodetic System of 1984

Horizontal Collection Method Code

Reference Point Code

Altitude Feet *--or--* Meters

Altitude Datum Name
- ☐ The National Geodetic Vertical Datum of 1929
- ☐ The North American Vertical Datum of 1988 (NAVD88)

Altitude (Vertical) Location Datum Collection Method Code

Geometric Type Code

Data Collection Date

Source Map Scale Number Inch(es) = Feet

--or-- Centimeter(s) = Meters

Flammable & Combustible Liquid Permit # (if applicable)

State or Municipality that Issued the Permit

FACILITY OPERATOR INFORMATION

☐ **Same as Owner Identified in Section II.** ☐ **Different than Owner Identified in Section II; identified below.**

DEP Client ID# | **Client Type / Code**

Organization Name or Registered Fictitious Name | **Employer ID# (EIN)** | **Dun & Bradstreet ID#**

Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Additional Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Mailing Address Line 1 | **Mailing Address Line 2**

Address Last Line – City | **State** | **ZIP+4** | **Country**

Client Contact Last Name | **First Name** | **MI** | **Suffix**

Client Contact Title | **Phone** | **Ext**

E-mail Address | **FAX**

V. CHANGE OF OWNERSHIP INFORMATION

☐ **All Tanks Changed Ownership at the Facility**

☐ **Some Tanks Changed Ownership at the Facility** (List all applicable tank numbers in Section VI.)

OWNERSHIP CHANGE TO - Client information is noted in Section II.

OWNERSHIP CHANGE FROM (previous owner information)

Name			
Employer ID# (EIN) or SSN			
Mailing Address Line 1			
Mailing Address Line 2			
Address Last Line - City		**State**	**ZIP+4**
Previous Facility ID#			

DATE OF SALE/TRANSFER	

SIGNATURE & CERTIFICATION OF PREVIOUS OWNER

Previous owner's signature is not available. As required, the "new" owner has attached a deed of transfer or other proof of ownership to this application. ☐ **Yes** ☐ **No** ☐ **N/A**

I have reviewed this form for submission to the Department. I certify under penalty of law as provided in 18 PA. C.S.A. §4903 (relating to false swearing) and 18 PA. C.S.A. §4904 (relating to unsworn falsification to authorities), that I have the authority to sign this Section for the transfer of permit or registration for the storage tanks listed herein. Further, I certify that all information provided in Section V is true, accurate and complete to the best of my knowledge and belief.

Type or Print Previous Owner Name

Previous Owner Signature	**Title**	**Date**

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VI. STORAGE DESCRIPTION

Type or print legibly each regulated storage tank at this facility under your ownership.
Status Codes: C-Currently in Use T-Temporarily Out of Use E-Exempt R-Removed P-Closed In Place
Type Codes: M-Manufactured F-Field Constructed

A. ABOVEGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code
027A	T	R	F	01/01/1958	06/09/2021	2,818,200	#2 Fuel Oil			
004A	T	R	F	01/01/1950	06/10/2021	3,288,600	Distillate			
085A	T	R	F	01/01/2012	06/11/2021	6,006	Pour Depressant			
025A	T	R	F	01/01/1955	06/16/2021	3,410,400	Gasoline			
A										
A										
A										
A										
A										
A										

B. UNDERGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VII. ABOVEGROUND & UNDERGROUND NEW TANK INSTALLATION INFORMATION

The DEP Certified Installer should complete this section. New tanks listed in Section VI must also be listed in this Section. Write the Tank Number(s) and place an ☒ in the appropriate box for each component that was installed.

Tank Construction & Corrosion Protection (1)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Tank Manufacturer:						
Model:						
A. Unprotected Steel (Single Wall)	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Steel (Galvanic)	☐	☐	☐	☐	☐	☐
C. Cathodically Protected Steel (Impressed Current)	☐	☐	☐	☐	☐	☐
D. Unprotected Steel (Double Wall)	☐	☐	☐	☐	☐	☐
E. Fiberglass (Single Wall)	☐	☐	☐	☐	☐	☐
F. Fiberglass (Double Wall)	☐	☐	☐	☐	☐	☐
G. Steel w/Plastic or Fiberglass Jacket or Double Wall Act 100	☐	☐	☐	☐	☐	☐
H. Steel With FRP Coating (Act 100 or Equivalent)	☐	☐	☐	☐	☐	☐
I. Steel with Lined Interior	☐	☐	☐	☐	☐	☐
J. Concrete	☐	☐	☐	☐	☐	☐
O. Cathodically Protected Double Wall Steel (Galvanic)	☐	☐	☐	☐	☐	☐
P. Cathodically Protected Steel with Liner	☐	☐	☐	☐	☐	☐
Q. Double Bottom (ASTs Only)	☐	☐	☐	☐	☐	☐
R. Molded Plastic Form (ASTs Only)	☐	☐	☐	☐	☐	☐
S. Stainless Steel	☐	☐	☐	☐	☐	☐
T. Aluminum	☐	☐	☐	☐	☐	☐
U. Fire Protected Double Wall AST	☐	☐	☐	☐	☐	☐
V. Steel with Plastic or Fiberglass Jacket or Double Wall Act 100 with Anodes	☐	☐	☐	☐	☐	☐
W. Steel with FRP Coating (Act 100 or Equivalent) with Anodes	☐	☐	☐	☐	☐	☐
X. Molded Plastic Form (Double Wall) (AST's Only)	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Underground Piping Construction & Corrosion Protection – Single/Inner Wall (28)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Primary (Inner) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Underground Piping Construction & Corrosion Protection – Outer Wall (29)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Secondary (Outer) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
L. Poly-encased Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Aboveground Piping Construction & Corrosion Protection (3)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Carbon Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Single Wall Fiberglass	☐	☐	☐	☐	☐	☐
E. Single Wall Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
F. PVC	☐	☐	☐	☐	☐	☐
G. None	☐	☐	☐	☐	☐	☐
I. Double Wall - Metallic Primary	☐	☐	☐	☐	☐	☐
J. Double Wall - Rigid (FRP) Primary	☐	☐	☐	☐	☐	☐
K. Double Wall - Flexible Primary	☐	☐	☐	☐	☐	☐
L. Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Product Delivery System (4)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Suction: Check valve at pump	☐	☐	☐	☐	☐	☐
B. Suction: Check valve at tank	☐	☐	☐	☐	☐	☐
C. Pressure	☐	☐	☐	☐	☐	☐
D. Gravity fed	☐	☐	☐	☐	☐	☐
E. None	☐	☐	☐	☐	☐	☐

Spill Prevention (6)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
S. Permanently installed and liquid tight (single-walled)	☐	☐	☐	☐	☐	☐
D. Permanently installed and liquid tight (double-walled)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Overfill Prevention (7)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Overfill alarm	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
S. Drop tube shutoff device	☐	☐	☐	☐	☐	☐
Y. Yes (AST only) Type: _____	☐	☐	☐	☐	☐	☐

Emergency Containment (16) ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes (includes double-walled tanks with required appurtenances)	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Secondary Containment (17) Single Wall ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Stage I Vapor Recovery (19) USTs and ASTs when applicable	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Coaxial	☐	☐	☐	☐	☐	☐
B. 2 Point	☐	☐	☐	☐	☐	☐
N. None or incomplete	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Tank-top Containment Sumps Present (Product Piping Only) (21) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some penetrations and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. At all penetrations and liquid tight	☐	☐	☐	☐	☐	☐

Under-dispenser Containment Present (22) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some dispensers and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. Under all dispensers and liquid tight	☐	☐	☐	☐	☐	☐

Line Leak Detector Shuts Off Pump (23) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Tank Supplies Emergency Generator (25)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VIII. ABOVEGROUND & UNDERGROUND TANK INFORMATION FOR PERMANENT CLOSURE

Write the Tank Number(s) and place an ☒ in the appropriate box for each tank that was removed or closed in place.

Items 2 & 3 below apply to large ASTs and all USTs	**Tank # 027A**	**Tank # 004A**	**Tank # 085A**	**Tank # 025A**	**Tank #**	**Tank #**
1. Contamination suspected or observed and notification of contamination form was submitted to the appropriate DEP regional office.	☐	☒	☐	☐	☐	☐
2. Closure document submitted to the appropriate DEP regional office.	☒	☒	☒	☒	☐	☐
3. Closure document kept on file by owner.	☒	☒	☒	☒	☐	☐

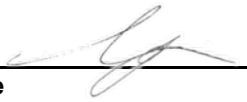
IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. This registration is conditioned upon compliance with provisions of the Storage Tank and Spill Prevention Act of 1989, all applicable regulations, and with the requirements for obtaining and maintaining a permit required under this Act. I certify my responsibility for assuring the following permit requirements:

- Storage tank systems are in compliance with applicable administrative, technical and operational requirements as specified in Subchapter E for underground tanks or Subchapter F or G for aboveground tanks.
- Tank handling and inspection activities are performed by an individual possessing DEP certification in the appropriate category as required in Subchapters A and B.
- Underground storage tanks meet the applicable financial responsibility requirements of Subchapter H (relating to financial responsibility requirements).
- A Spill Prevention Response (SPR) Plan must be submitted to the appropriate DEP regional office for facilities that have aboveground storage tanks where the total capacity of all aboveground tanks is greater than 21,000 gallons.
- Other state and local permits required for operation of the tank system have been attained.

My signature represents to the Department that I own the storage tank(s) and am aware of the responsibilities and potential liabilities as an "owner" arising under the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I am also advised that statements made on this registration is made subject to the penalties of 18 PA. C.S.A. Section 4904 relating to unsworn falsification to authorities.

Type or Print Owner Name Gary Bowman

Owner Signature	Title	Date
	President	6/18/2021

Information & Invoices should be sent to:

- ☒ **Tank Owner Contact**
- ☒ **Site Contact**
- ☐ **Facility Operator**
- ☐ **Other Responsible Party Identified Below**

Organization Name or Registered Fictitious Name		Employer ID# (EIN)		Dun & Bradstreet ID#
Northstar Contracting Group, Inc.				
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Bowman	Gary	P	Sr	
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**

Mailing Address Line 1	Mailing Address Line 2			
250 E. Adams Avenue				
Address Last Line – City		**State**	**ZIP+4**	**Country**
Philadelphia		PA	19124	USA
Contact Title			**Phone**	**Ext.**
President				
E-mail Address				
Gbowman@northstar.com				
Client to Site (Facility) Relationship				

X. INSTALLER / REMOVER CERTIFICATION

This section must be completed by the certified tank handler(s) who is responsible for the installation or removal from service of the aboveground and underground storage tank systems listed in Section VI. Tank modification activity must be submitted on a "Tank Modification Report" form.

SIGNATURE & CERTIFICATION OF INSTALLER(S) / REMOVER(S)

As the certified tank handler responsible for the tank handling activities in the category or categories listed, I certify that all tank handling activities were conducted in compliance with the design, installation and operation standards of the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I also certify, under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided therein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Installer/Remover Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Installer/Remover Signature	Date
027A	Kristian Satterthwaite		5081	AFR	1557	Kristian Satterthwaite	6/18/2021
004A	Kristian Satterthwaite		5081	AFR	1557	Kristian Satterthwaite	6/18/2021
085A	Kristian Satterthwaite		5081	AFR	1557	Kristian Satterthwaite	6/18/2021
025A	Kristian Satterthwaite		5081	AFR	1557	Kristian Satterthwaite	6/18/2021

XI. INSPECTOR CERTIFICATION

This section must be completed by the DEP Certified Tank Inspector(s) who is responsible for verifying the installation standards for field constructed tanks and aboveground tanks greater than 21,000 gallons listed in Section VI. (Type or Print legibly) A DEP Certified Inspector may also be responsible for inspecting existing ASTs which are entering regulated service for the first time with no tank handling activities.

SIGNATURE & CERTIFICATION OF INSPECTOR(S)

As the certified tank inspector responsible for verifying tank handling activities and construction standards, I certify that the tank(s) listed below are constructed to appropriate industry standards and, if applicable, to manufacturer's specifications; that the tank(s) have been tested as required by industry standards; and that the tank(s) meet or exceed applicable design and operating standards; and are in compliance with the requirements of the Storage Tank and Spill Prevention Act of 1989, and all applicable regulations. I also certify under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided herein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Inspector Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Inspector Signature	Date

XII. SITE SPECIFIC INSTALLATION PERMIT NUMBER

If a site-specific permit was required for a new tank installation, write the tank number(s) and permit number(s) in the appropriate box.

Site-Specific Installation Permit	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#

JD² Environmental Inc.
800 East Washington Street • West Chester, PA 19380 • 610.430.8151 • 610.430.8016 Fax • www.jd2env.com

June 21, 2021

VIA EMAIL (ELECTRONIC SUBMISSION)

Pennsylvania Department of Environmental Protection
Central Office - Division of Storage Tanks
Rachel Carson State Office Building
400 Market Street
Harrisburg, Pennsylvania 17101

Subject: Philadelphia Energy Solutions Refining and Marketing, LLC (PES)
PADEP Storage Tanks Registration/Permitting Application Form
PADEP Facility ID #51-33620 - Point Breeze Refinery

Dear PADEP:

On behalf of our client, JD2 Environmental, Inc. (JD2) is attaching the Pennsylvania Department of Environmental Protection's (PADEP's) Storage Tanks Registration/Permitting Application Form for the removal of the following aboveground storage tanks (ASTs):

Facility Name	PADEP Facility ID #	PADEP Tank ID #	Owner Tank ID #	AMS Tank ID #	Removal Date
Point Breeze Refinery	51-33620	056A	PB 882	P-600	5/20/2021
Point Breeze Refinery	51-33620	002A	PB 33	P-507	5/21/2021
Point Breeze Refinery	51-33620	029A	PB 84	P-519	5/26/2021
Point Breeze Refinery	51-33620	938A	PB 178	P-541	5/27/2021
Point Breeze Refinery	51-33620	039A	PB 179	P-542	6/04/2021
Point Breeze Refinery	51-33620	028A	PB 43	P-516	6/07/2021

If you have any questions regarding this submittal, please do not hesitate to contact me at (610) 430-8151.

Sincerely yours,

JD2 ENVIRONMENTAL, INC.

Kristian Satterthwaite

Kristian Satterthwaite
Environmental Scientist
PADEP Inspector #5081

KS:wc
Attachment

cc: REPSG

2630-PM-BECB0514 Rev. 6/2019
Form

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS

STORAGE TANKS REGISTRATION / PERMITTING APPLICATION FORM

Before completing this form, read the step-by-step instructions provided in this application package.

	DEP USE ONLY
	Client ID#
51-33620 Facility ID #	Site ID#
	Account #
	Auth ID#
Phila Ref Point Breeze Facility Name	APS ID#
	Master Auth ID#

I. PURPOSE OF SUBMITTAL

INITIAL (Applies to First-Time Facility Registration)

- ☐ Register Tanks(s) to be Used*
- ☐ Register Tank(s) to be Removed
- ☐ Register Tank(s) to be Temporarily Out of Use
- ☐ Register Tank(s) to be Closed in Place

AMENDED (Applies to Currently Registered Tank(s) or Existing Facility)

- ☐ Changed Owner Information
- ☐ Changed Facility Information
- ☐ Changed to Currently In Use Tank(s)*
- ☐ Changed to Temporarily Out of Use Tank(s)
- ☐ Changed Product
- ☐ Changed Contact Information
- ☐ Changed Facility Operator Information
- ☐ Added Tank(s) to Existing Facility*
- ☒ Changed to Permanently Closed Tank(s)/Removed
- ☐ Changed to Exempt Tank(s)

CHANGE OF OWNERSHIP

- ☐ Tanks Changed Ownership and Remain at Same Facility*

* **For Underground Storage Tanks (UST), attach the UST Operator Training Documentation Form (2630-PM-BECB0514a) and copies of the Class A and Class B operator training certificates.**

II. CURRENT OR NEW TANK OWNER / CLIENT INFORMATION

DEP Client ID#	Client Type/Code	Fee Kind (check one if applicable)		
298341		☐ Volunteer Fire Co/EMS Org	☐ State Govt	☐ Fed Govt

Organization Name or Registered Fictitious Name		Employer ID# (EIN)		Dun & Bradstreet ID#
Philadelphia Energy Solutions Refining and Marketing, LLC				
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Bowman	Gary	P	Sr	
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Mailing Address Line 1	**Mailing Address Line 2**			
3144 W. Passyunk Ave				
Address Last Line – City	**State**	**ZIP+4**	**Country**	
Philadelphia	PA	19141-5299	USA	
Client Contact Last Name	**First Name**	**MI**	**Suffix**	
Bowman	Gary	P	Sr	
Client Contact Title		**Phone**	**Ext**	
President		610 636-4574		
E-mail Address			**FAX**	
Gbowman@northstar.com				

III. SITE INFORMATION

DEP Site ID# | Site Name

EPA ID# | Estimated Number of Employees to be Present at Site

Description of Site

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

Site Location Line 1 | Site Location Line 2

Site Location Last Line – City | State | ZIP+4

Detailed Written Directions to Site

Site Contact Last Name | First Name | MI | Suffix

Site Contact Title | Site Contact Firm

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4

Phone | Ext | FAX | E-mail Address

NAICS Codes (Two- & Three-Digit Codes – List All That Apply) | 6-Digit Code (Optional)

Site to Client Relationship

IIIa. PROPERTY OWNER INFORMATION

☐ Same as Tank Owner Identified in Section II. ☐ Different than Tank Owner Identified in Section II; identified below.

Organization Name or Registered Fictitious Name | Employer ID# (EIN) | Dun & Bradstreet ID#

Individual Last Name | First Name | MI | Suffix | SSN

Additional Individual Last Name | First Name | MI | Suffix | SSN

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4 | Country

Property Owner Contact Last Name | First Name | MI | Suffix

Property Owner Contact Title | Phone | Ext

E-mail Address | FAX

IV. FACILITY INFORMATION

DEP Storage Tank Facility ID# | **Facility Name** | **Facility Kind**

Facility Location Line 1 (if different than Site Location) | **Facility Location Line 2**

Facility Location Last Line - City | **State** | **ZIP+4**

Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**

Horizontal Accuracy Measure Feet *--or--* Meters

Horizontal Reference Datum Code
- ☐ North American Datum of 1927
- ☐ North American Datum of 1983
- ☐ World Geodetic System of 1984

Horizontal Collection Method Code

Reference Point Code

Altitude Feet *--or--* Meters

Altitude Datum Name
- ☐ The National Geodetic Vertical Datum of 1929
- ☐ The North American Vertical Datum of 1988 (NAVD88)

Altitude (Vertical) Location Datum Collection Method Code

Geometric Type Code

Data Collection Date

Source Map Scale Number Inch(es) = Feet

--or-- Centimeter(s) = Meters

Flammable & Combustible Liquid Permit # (if applicable)

State or Municipality that Issued the Permit

FACILITY OPERATOR INFORMATION

☐ **Same as Owner Identified in Section II.** ☐ **Different than Owner Identified in Section II; identified below.**

DEP Client ID# | **Client Type / Code**

Organization Name or Registered Fictitious Name | **Employer ID# (EIN)** | **Dun & Bradstreet ID#**

Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Additional Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Mailing Address Line 1 | **Mailing Address Line 2**

Address Last Line – City | **State** | **ZIP+4** | **Country**

Client Contact Last Name | **First Name** | **MI** | **Suffix**

Client Contact Title | **Phone** | **Ext**

E-mail Address | **FAX**

V. CHANGE OF OWNERSHIP INFORMATION

☐ **All Tanks Changed Ownership at the Facility**

☐ **Some Tanks Changed Ownership at the Facility** (List all applicable tank numbers in Section VI.)

OWNERSHIP CHANGE TO - Client information is noted in Section II.

OWNERSHIP CHANGE FROM (previous owner information)

Name			
Employer ID# (EIN) or SSN			
Mailing Address Line 1			
Mailing Address Line 2			
Address Last Line - City		**State**	**ZIP+4**
Previous Facility ID#			

DATE OF SALE/TRANSFER	

SIGNATURE & CERTIFICATION OF PREVIOUS OWNER

Previous owner's signature is not available. As required, the "new" owner has attached a deed of transfer or other proof of ownership to this application. ☐ **Yes** ☐ **No** ☐ **N/A**

I have reviewed this form for submission to the Department. I certify under penalty of law as provided in 18 PA. C.S.A. §4903 (relating to false swearing) and 18 PA. C.S.A. §4904 (relating to unsworn falsification to authorities), that I have the authority to sign this Section for the transfer of permit or registration for the storage tanks listed herein. Further, I certify that all information provided in Section V is true, accurate and complete to the best of my knowledge and belief.

Type or Print Previous Owner Name

Previous Owner Signature	**Title**	**Date**

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VI. STORAGE DESCRIPTION

Type or print legibly each regulated storage tank at this facility under your ownership.
Status Codes: C-Currently in Use T-Temporarily Out of Use E-Exempt R-Removed P-Closed In Place
Type Codes: M-Manufactured F-Field Constructed

A. ABOVEGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code
056A	T	R	F	01/01/1959	05/20/2021	8,421,000	Crude			
002A	T	R	F	01/01/1956	05/21/2021	2,935,800	Gasoline			
029A	T	R	F	01/01/1950	05/26/2021	3,288,208	Distillate			
038A	T	R	F	01/01/1974	05/27/2021	6,346,200	Heavy Naphtha			
039A	T	R	F	01/01/1974	06/04/2021	4,620,000	Light Naphtha			
028A	T	R	F	01/01/1955	06/07/2021	3,385,200	Distillate			
A										
A										
A										
A										

B. UNDERGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VII. ABOVEGROUND & UNDERGROUND NEW TANK INSTALLATION INFORMATION

The DEP Certified Installer should complete this section. New tanks listed in Section VI must also be listed in this Section. Write the Tank Number(s) and place an ☒ in the appropriate box for each component that was installed.

Tank Construction & Corrosion Protection (1)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Tank Manufacturer:						
Model:						
A. Unprotected Steel (Single Wall)	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Steel (Galvanic)	☐	☐	☐	☐	☐	☐
C. Cathodically Protected Steel (Impressed Current)	☐	☐	☐	☐	☐	☐
D. Unprotected Steel (Double Wall)	☐	☐	☐	☐	☐	☐
E. Fiberglass (Single Wall)	☐	☐	☐	☐	☐	☐
F. Fiberglass (Double Wall)	☐	☐	☐	☐	☐	☐
G. Steel w/Plastic or Fiberglass Jacket or Double Wall Act 100	☐	☐	☐	☐	☐	☐
H. Steel With FRP Coating (Act 100 or Equivalent)	☐	☐	☐	☐	☐	☐
I. Steel with Lined Interior	☐	☐	☐	☐	☐	☐
J. Concrete	☐	☐	☐	☐	☐	☐
O. Cathodically Protected Double Wall Steel (Galvanic)	☐	☐	☐	☐	☐	☐
P. Cathodically Protected Steel with Liner	☐	☐	☐	☐	☐	☐
Q. Double Bottom (ASTs Only)	☐	☐	☐	☐	☐	☐
R. Molded Plastic Form (ASTs Only)	☐	☐	☐	☐	☐	☐
S. Stainless Steel	☐	☐	☐	☐	☐	☐
T. Aluminum	☐	☐	☐	☐	☐	☐
U. Fire Protected Double Wall AST	☐	☐	☐	☐	☐	☐
V. Steel with Plastic or Fiberglass Jacket or Double Wall Act 100 with Anodes	☐	☐	☐	☐	☐	☐
W. Steel with FRP Coating (Act 100 or Equivalent) with Anodes	☐	☐	☐	☐	☐	☐
X. Molded Plastic Form (Double Wall) (AST's Only)	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Underground Piping Construction & Corrosion Protection – Single/Inner Wall (28)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Primary (Inner) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Underground Piping Construction & Corrosion Protection – Outer Wall (29)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Secondary (Outer) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
L. Poly-encased Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Aboveground Piping Construction & Corrosion Protection (3)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Carbon Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Single Wall Fiberglass	☐	☐	☐	☐	☐	☐
E. Single Wall Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
F. PVC	☐	☐	☐	☐	☐	☐
G. None	☐	☐	☐	☐	☐	☐
I. Double Wall - Metallic Primary	☐	☐	☐	☐	☐	☐
J. Double Wall - Rigid (FRP) Primary	☐	☐	☐	☐	☐	☐
K. Double Wall - Flexible Primary	☐	☐	☐	☐	☐	☐
L. Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Product Delivery System (4)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Suction: Check valve at pump	☐	☐	☐	☐	☐	☐
B. Suction: Check valve at tank	☐	☐	☐	☐	☐	☐
C. Pressure	☐	☐	☐	☐	☐	☐
D. Gravity fed	☐	☐	☐	☐	☐	☐
E. None	☐	☐	☐	☐	☐	☐

Spill Prevention (6)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
S. Permanently installed and liquid tight (single-walled)	☐	☐	☐	☐	☐	☐
D. Permanently installed and liquid tight (double-walled)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Overfill Prevention (7)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Overfill alarm	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
S. Drop tube shutoff device	☐	☐	☐	☐	☐	☐
Y. Yes (AST only) Type: _____	☐	☐	☐	☐	☐	☐

Emergency Containment (16) ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes (includes double-walled tanks with required appurtenances)	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Secondary Containment (17) Single Wall ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Stage I Vapor Recovery (19) USTs and ASTs when applicable	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Coaxial	☐	☐	☐	☐	☐	☐
B. 2 Point	☐	☐	☐	☐	☐	☐
N. None or incomplete	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Tank-top Containment Sumps Present (Product Piping Only) (21) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some penetrations and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. At all penetrations and liquid tight	☐	☐	☐	☐	☐	☐

Under-dispenser Containment Present (22) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some dispensers and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. Under all dispensers and liquid tight	☐	☐	☐	☐	☐	☐

Line Leak Detector Shuts Off Pump (23) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Tank Supplies Emergency Generator (25)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VIII. ABOVEGROUND & UNDERGROUND TANK INFORMATION FOR PERMANENT CLOSURE

Write the Tank Number(s) and place an ☒ in the appropriate box for each tank that was removed or closed in place.

Items 2 & 3 below apply to large ASTs and all USTs	**Tank # 056A**	**Tank # 002A**	**Tank # 029A**	**Tank # 038A**	**Tank # 039A**	**Tank # 028A**
1. Contamination suspected or observed and notification of contamination form was submitted to the appropriate DEP regional office.	☐	☐	☐	☐	☐	☐
2. Closure document submitted to the appropriate DEP regional office.	☒	☒	☒	☒	☒	☒
3. Closure document kept on file by owner.	☒	☒	☒	☒	☒	☒

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. This registration is conditioned upon compliance with provisions of the Storage Tank and Spill Prevention Act of 1989, all applicable regulations, and with the requirements for obtaining and maintaining a permit required under this Act. I certify my responsibility for assuring the following permit requirements:

- Storage tank systems are in compliance with applicable administrative, technical and operational requirements as specified in Subchapter E for underground tanks or Subchapter F or G for aboveground tanks.
- Tank handling and inspection activities are performed by an individual possessing DEP certification in the appropriate category as required in Subchapters A and B.
- Underground storage tanks meet the applicable financial responsibility requirements of Subchapter H (relating to financial responsibility requirements).
- A Spill Prevention Response (SPR) Plan must be submitted to the appropriate DEP regional office for facilities that have aboveground storage tanks where the total capacity of all aboveground tanks is greater than 21,000 gallons.
- Other state and local permits required for operation of the tank system have been attained.

My signature represents to the Department that I own the storage tank(s) and am aware of the responsibilities and potential liabilities as an "owner" arising under the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I am also advised that statements made on this registration is made subject to the penalties of 18 PA. C.S.A. Section 4904 relating to unsworn falsification to authorities.

Type or Print Owner Name Gary Bowman

Owner Signature	Title	Date
	President	6/18/2021

Information & Invoices should be sent to:

- ☒ **Tank Owner Contact**
- ☒ **Site Contact**
- ☐ **Facility Operator**
- ☐ **Other Responsible Party Identified Below**

Organization Name or Registered Fictitious Name		Employer ID# (EIN)		Dun & Bradstreet ID#
Northstar Contracting Group, Inc.				
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Bowman	Gary	P	Sr	
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Mailing Address Line 1	**Mailing Address Line 2**			
250 E. Adams Avenue				
Address Last Line – City		**State**	**ZIP+4**	**Country**
Philadelphia		PA	19124	USA
Contact Title			**Phone**	**Ext.**
President				
E-mail Address				
Gbowman@northstar.com				
Client to Site (Facility) Relationship				

X. INSTALLER / REMOVER CERTIFICATION

This section must be completed by the certified tank handler(s) who is responsible for the installation or removal from service of the aboveground and underground storage tank systems listed in Section VI. Tank modification activity must be submitted on a "Tank Modification Report" form.

SIGNATURE & CERTIFICATION OF INSTALLER(S) / REMOVER(S)

As the certified tank handler responsible for the tank handling activities in the category or categories listed, I certify that all tank handling activities were conducted in compliance with the design, installation and operation standards of the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I also certify, under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided therein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Installer/Remover Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Installer/Remover Signature	Date
056A	Kristian Satterthwaite		5081	AFR	1557	Kristian Satterthwaite	6/18/2021
002A	Kristian Satterthwaite		5081	AFR	1557	Kristian Satterthwaite	6/18/2021
029A	Kristian Satterthwaite		5081	AFR	1557	Kristian Satterthwaite	6/18/2021
938A	Kristian Satterthwaite		5081	AFR	1557	Kristian Satterthwaite	6/18/2021
039A	Kristian Satterthwaite		5081	AFR	1557	Kristian Satterthwaite	6/18/2021
028A	Kristian Satterthwaite		5081	AFR	1557	Kristian Satterthwaite	6/18/2021

XI. INSPECTOR CERTIFICATION

This section must be completed by the DEP Certified Tank Inspector(s) who is responsible for verifying the installation standards for field constructed tanks and aboveground tanks greater than 21,000 gallons listed in Section VI. (Type or Print legibly) A DEP Certified Inspector may also be responsible for inspecting existing ASTs which are entering regulated service for the first time with no tank handling activities.

SIGNATURE & CERTIFICATION OF INSPECTOR(S)

As the certified tank inspector responsible for verifying tank handling activities and construction standards, I certify that the tank(s) listed below are constructed to appropriate industry standards and, if applicable, to manufacturer's specifications; that the tank(s) have been tested as required by industry standards; and that the tank(s) meet or exceed applicable design and operating standards; and are in compliance with the requirements of the Storage Tank and Spill Prevention Act of 1989, and all applicable regulations. I also certify under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided herein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Inspector Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Inspector Signature	Date

XII. SITE SPECIFIC INSTALLATION PERMIT NUMBER

If a site-specific permit was required for a new tank installation, write the tank number(s) and permit number(s) in the appropriate box.

Site-Specific Installation Permit	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#

NorthStar
Contracting Group, Inc.

2250 E Adams Ave • Philadelphia, PA 19124
Office: 215.533.8890 • Fax: 215.533.8897
Website • www.NorthStar.com

December 21, 2021

Pennsylvania Department of Environmental Protection
Southeast Regional Office
Division of Storage Tanks
2 East Main Street
Norristown, Pennsylvania 19401
Via email: RA-serotanks@pa.gov, ra-tanks@pa.gov

Re: Philadelphia Energy Solutions Refining and Marketing, LLC (PESRM)
Above Ground Storage Tanks Change in Status

To whom it may concern:

Please find attached the Storage Tank Registration/Permitting Application Forms that support the information listed in the following table. Four (4) AST's have been removed from the Point Breeze Process Area and One (1) AST was removed from the Girard Point Process Area. In addition to these five removals the status of one (1) AST at the Girard Point Process Area has been changed from Currently In Use "C" to Temporarily Out of Service "T".

Removed					
Facility Name	PADEP Facility ID #	PADEP Tank ID #	Owner Tank ID #	AMS Tank ID #	Removal Date
Point Breeze Refinery	51-33620	058A	PB 884	P-602	11/01/2021
Point Breeze Refinery	51-33620	040A	PB 191	P-546	11/23/2021
Point Breeze Refinery	51-33620	057A	PB 883	P-601	11/24/2021
Point Breeze Refinery	51-33620	047A	PB 823	P-576	12/03/2021
Girard Point Refinery	51-33624	015A	GP 225	P-146	11/15/2021
Amended					
Girard Point Refinery	51-33624	066A	GP 973	N/A	11/15/2021

If you have any questions, please do not hesitate to contact me at 440.228.1524

Respectfully Submitted,

Robert Armstrong
Sr. Project Manager
NorthStar Contracting Group, Inc.

cc:

Gary Bowman (NorthStar)
Dr. Kassahun Sellassie (AMS)
Thomas Barsley (AMS)
Edward Wiener (AMS)
Charles Barksdale (Hilco)
Mike Leonardo (Hilco

JD2 Environmental Inc.
800 East Washington Street • West Chester, PA 19380 • 610.430.8151 • 610.430.8016 Fax • www.jd2env.com

December 14, 2021

VIA EMAIL (ELECTRONIC SUBMISSION)

Pennsylvania Department of Environmental Protection
Central Office - Division of Storage Tanks
Rachel Carson State Office Building
400 Market Street
Harrisburg, Pennsylvania 17101

Subject: **Philadelphia Energy Solutions Refining and Marketing, LLC (PES)**
PADEP Storage Tanks Registration/Permitting Application Form
PADEP Facility ID #51-33620 - Point Breeze Refinery

Dear PADEP:

On behalf of our client, JD2 Environmental, Inc. (JD2) is attaching the Pennsylvania Department of Environmental Protection's (PADEP's) Storage Tanks Registration/Permitting Application Form for the removal of the following aboveground storage tank (AST):

Facility Name	PADEP Facility ID #	PADEP Tank ID #	Owner Tank ID #	AMS Tank ID #	Removal Date
Point Breeze Refinery	51-33620	058A	PB 884	P-602	11/01/2021

If you have any questions regarding this submittal, please do not hesitate to contact me at (610) 430-8151.

Sincerely yours,

JD2 ENVIRONMENTAL, INC.

Kristian Satterthwaite
Environmental Scientist
PADEP Inspector #5081

KS:wc
Attachment

cc: REPSG

2630-PM-BECB0514 Rev. 6/2019
Form

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS

STORAGE TANKS REGISTRATION / PERMITTING APPLICATION FORM

Before completing this form, read the step-by-step instructions provided in this application package.

	DEP USE ONLY
51-33620 Facility ID #	Client ID#
	Site ID#
	Account #
	Auth ID#
Phila Ref Point Breeze Facility Name	APS ID#
	Master Auth ID#

I. PURPOSE OF SUBMITTAL

INITIAL (Applies to First-Time Facility Registration)

- ☐ Register Tanks(s) to be Used*
- ☐ Register Tank(s) to be Removed
- ☐ Register Tank(s) to be Temporarily Out of Use
- ☐ Register Tank(s) to be Closed in Place

AMENDED (Applies to Currently Registered Tank(s) or Existing Facility)

- ☐ Changed Owner Information
- ☐ Changed Facility Information
- ☐ Changed to Currently In Use Tank(s)*
- ☐ Changed to Temporarily Out of Use Tank(s)
- ☐ Changed Product
- ☐ Changed Contact Information
- ☐ Changed Facility Operator Information
- ☐ Added Tank(s) to Existing Facility*
- ☒ Changed to Permanently Closed Tank(s)/Removed
- ☐ Changed to Exempt Tank(s)

CHANGE OF OWNERSHIP

- ☐ Tanks Changed Ownership and Remain at Same Facility*

* **For Underground Storage Tanks (UST), attach the UST Operator Training Documentation Form (2630-PM-BECB0514a) and copies of the Class A and Class B operator training certificates.**

II. CURRENT OR NEW TANK OWNER / CLIENT INFORMATION

DEP Client ID#	Client Type/Code	Fee Kind (check one if applicable)		
298341		☐ Volunteer Fire Co/EMS Org	☐ State Govt	☐ Fed Govt

Organization Name or Registered Fictitious Name		Employer ID# (EIN)		Dun & Bradstreet ID#
Philadelphia Energy Solutions Refining and Marketing, LLC				
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Bowman	Gary	P.	Sr.	
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Mailing Address Line 1	**Mailing Address Line 2**			
3144 West Passyunk Avenue				
Address Last Line – City	**State**	**ZIP+4**	**Country**	
Philadelphia	PA	19145	USA	
Client Contact Last Name	**First Name**	**MI**	**Suffix**	
Bowman	Gary	P.	Sr,	
Client Contact Title		**Phone**	**Ext**	
President		610-636-4574		
E-mail Address			**FAX**	
Gbowman@northstar.com				

III. SITE INFORMATION

DEP Site ID# | Site Name

EPA ID# | Estimated Number of Employees to be Present at Site

Description of Site

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

Site Location Line 1 | Site Location Line 2

Site Location Last Line – City | State | ZIP+4

Detailed Written Directions to Site

Site Contact Last Name | First Name | MI | Suffix

Site Contact Title | Site Contact Firm

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4

Phone | Ext | FAX | E-mail Address

NAICS Codes (Two- & Three-Digit Codes – List All That Apply) | 6-Digit Code (Optional)

Site to Client Relationship

IIIa. PROPERTY OWNER INFORMATION

☐ Same as Tank Owner Identified in Section II. ☐ Different than Tank Owner Identified in Section II; identified below.

Organization Name or Registered Fictitious Name | Employer ID# (EIN) | Dun & Bradstreet ID#

Individual Last Name | First Name | MI | Suffix | SSN

Additional Individual Last Name | First Name | MI | Suffix | SSN

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4 | Country

Property Owner Contact Last Name | First Name | MI | Suffix

Property Owner Contact Title | Phone | Ext

E-mail Address | FAX

IV. FACILITY INFORMATION

DEP Storage Tank Facility ID# | **Facility Name** | **Facility Kind**

Facility Location Line 1 (if different than Site Location) | **Facility Location Line 2**

Facility Location Last Line - City | **State** | **ZIP+4**

Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

Horizontal Accuracy Measure Feet --or-- Meters

Horizontal Reference Datum Code
- ☐ North American Datum of 1927
- ☐ North American Datum of 1983
- ☐ World Geodetic System of 1984

Horizontal Collection Method Code

Reference Point Code

Altitude Feet --or-- Meters

Altitude Datum Name
- ☐ The National Geodetic Vertical Datum of 1929
- ☐ The North American Vertical Datum of 1988 (NAVD88)

Altitude (Vertical) Location Datum Collection Method Code

Geometric Type Code

Data Collection Date

Source Map Scale Number Inch(es) = Feet

--or-- Centimeter(s) = Meters

Flammable & Combustible Liquid Permit # (if applicable)

State or Municipality that Issued the Permit

FACILITY OPERATOR INFORMATION

☐ **Same as Owner Identified in Section II.** ☐ **Different than Owner Identified in Section II; identified below.**

DEP Client ID# | **Client Type / Code**

Organization Name or Registered Fictitious Name | **Employer ID# (EIN)** | **Dun & Bradstreet ID#**

Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Additional Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Mailing Address Line 1 | **Mailing Address Line 2**

Address Last Line – City | **State** | **ZIP+4** | **Country**

Client Contact Last Name | **First Name** | **MI** | **Suffix**

Client Contact Title | **Phone** | **Ext**

E-mail Address | **FAX**

V. CHANGE OF OWNERSHIP INFORMATION

☐ **All Tanks Changed Ownership at the Facility**

☐ **Some Tanks Changed Ownership at the Facility** (List all applicable tank numbers in Section VI.)

OWNERSHIP CHANGE TO - Client information is noted in Section II.

OWNERSHIP CHANGE FROM (previous owner information)

Name

Employer ID# (EIN) or SSN

Mailing Address Line 1

Mailing Address Line 2

Address Last Line - City **State** **ZIP+4**

Previous Facility ID#

DATE OF SALE/TRANSFER	

SIGNATURE & CERTIFICATION OF PREVIOUS OWNER

Previous owner's signature is not available. As required, the "new" owner has attached a deed of transfer or other proof of ownership to this application. ☐ **Yes** ☐ **No** ☐ **N/A**

I have reviewed this form for submission to the Department. I certify under penalty of law as provided in 18 PA. C.S.A. §4903 (relating to false swearing) and 18 PA. C.S.A. §4904 (relating to unsworn falsification to authorities), that I have the authority to sign this Section for the transfer of permit or registration for the storage tanks listed herein. Further, I certify that all information provided in Section V is true, accurate and complete to the best of my knowledge and belief.

Type or Print Previous Owner Name

Previous Owner Signature **Title** **Date**

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VI. STORAGE DESCRIPTION

Type or print legibly each regulated storage tank at this facility under your ownership.
Status Codes: C-Currently in Use T-Temporarily Out of Use E-Exempt R-Removed P-Closed In Place
Type Codes: M-Manufactured F-Field Constructed

A. ABOVEGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code
058A	T	R	F	01/01/1974	11/01/2021	13,158,600		Crude Oil		
A										
A										
A										
A										
A										
A										
A										
A										
A										

B. UNDERGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VII. ABOVEGROUND & UNDERGROUND NEW TANK INSTALLATION INFORMATION

The DEP Certified Installer should complete this section. New tanks listed in Section VI must also be listed in this Section. Write the Tank Number(s) and place an ☒ in the appropriate box for each component that was installed.

Tank Construction & Corrosion Protection (1)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Tank Manufacturer:						
Model:						
A. Unprotected Steel (Single Wall)	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Steel (Galvanic)	☐	☐	☐	☐	☐	☐
C. Cathodically Protected Steel (Impressed Current)	☐	☐	☐	☐	☐	☐
D. Unprotected Steel (Double Wall)	☐	☐	☐	☐	☐	☐
E. Fiberglass (Single Wall)	☐	☐	☐	☐	☐	☐
F. Fiberglass (Double Wall)	☐	☐	☐	☐	☐	☐
G. Steel w/Plastic or Fiberglass Jacket or Double Wall Act 100	☐	☐	☐	☐	☐	☐
H. Steel With FRP Coating (Act 100 or Equivalent)	☐	☐	☐	☐	☐	☐
I. Steel with Lined Interior	☐	☐	☐	☐	☐	☐
J. Concrete	☐	☐	☐	☐	☐	☐
O. Cathodically Protected Double Wall Steel (Galvanic)	☐	☐	☐	☐	☐	☐
P. Cathodically Protected Steel with Liner	☐	☐	☐	☐	☐	☐
Q. Double Bottom (ASTs Only)	☐	☐	☐	☐	☐	☐
R. Molded Plastic Form (ASTs Only)	☐	☐	☐	☐	☐	☐
S. Stainless Steel	☐	☐	☐	☐	☐	☐
T. Aluminum	☐	☐	☐	☐	☐	☐
U. Fire Protected Double Wall AST	☐	☐	☐	☐	☐	☐
V. Steel with Plastic or Fiberglass Jacket or Double Wall Act 100 with Anodes	☐	☐	☐	☐	☐	☐
W. Steel with FRP Coating (Act 100 or Equivalent) with Anodes	☐	☐	☐	☐	☐	☐
X. Molded Plastic Form (Double Wall) (AST's Only)	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Underground Piping Construction & Corrosion Protection – Single/Inner Wall (28)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Primary (Inner) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Underground Piping Construction & Corrosion Protection – Outer Wall (29)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Secondary (Outer) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
L. Poly-encased Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Aboveground Piping Construction & Corrosion Protection (3)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Carbon Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Single Wall Fiberglass	☐	☐	☐	☐	☐	☐
E. Single Wall Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
F. PVC	☐	☐	☐	☐	☐	☐
G. None	☐	☐	☐	☐	☐	☐
I. Double Wall - Metallic Primary	☐	☐	☐	☐	☐	☐
J. Double Wall - Rigid (FRP) Primary	☐	☐	☐	☐	☐	☐
K. Double Wall - Flexible Primary	☐	☐	☐	☐	☐	☐
L. Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Product Delivery System (4)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Suction: Check valve at pump	☐	☐	☐	☐	☐	☐
B. Suction: Check valve at tank	☐	☐	☐	☐	☐	☐
C. Pressure	☐	☐	☐	☐	☐	☐
D. Gravity fed	☐	☐	☐	☐	☐	☐
E. None	☐	☐	☐	☐	☐	☐

Spill Prevention (6)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
S. Permanently installed and liquid tight (single-walled)	☐	☐	☐	☐	☐	☐
D. Permanently installed and liquid tight (double-walled)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Overfill Prevention (7)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Overfill alarm	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
S. Drop tube shutoff device	☐	☐	☐	☐	☐	☐
Y. Yes (AST only) Type: _____	☐	☐	☐	☐	☐	☐

Emergency Containment (16) ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes (includes double-walled tanks with required appurtenances)	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Secondary Containment (17) Single Wall ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Stage I Vapor Recovery (19) USTs and ASTs when applicable	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Coaxial	☐	☐	☐	☐	☐	☐
B. 2 Point	☐	☐	☐	☐	☐	☐
N. None or incomplete	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Tank-top Containment Sumps Present (Product Piping Only) (21) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some penetrations and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. At all penetrations and liquid tight	☐	☐	☐	☐	☐	☐

Under-dispenser Containment Present (22) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some dispensers and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. Under all dispensers and liquid tight	☐	☐	☐	☐	☐	☐

Line Leak Detector Shuts Off Pump (23) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Tank Supplies Emergency Generator (25)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VIII. ABOVEGROUND & UNDERGROUND TANK INFORMATION FOR PERMANENT CLOSURE

Write the Tank Number(s) and place an ☒ in the appropriate box for each tank that was removed or closed in place.

Items 2 & 3 below apply to large ASTs and all USTs	Tank # 058A	Tank #	Tank #	Tank #	Tank #	Tank #
1. Contamination suspected or observed and notification of contamination form was submitted to the appropriate DEP regional office.	☐	☐	☐	☐	☐	☐
2. Closure document submitted to the appropriate DEP regional office.	☒	☐	☐	☐	☐	☐
3. Closure document kept on file by owner.	☒	☐	☐	☐	☐	☐

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. This registration is conditioned upon compliance with provisions of the Storage Tank and Spill Prevention Act of 1989, all applicable regulations, and with the requirements for obtaining and maintaining a permit required under this Act. I certify my responsibility for assuring the following permit requirements:

- Storage tank systems are in compliance with applicable administrative, technical and operational requirements as specified in Subchapter E for underground tanks or Subchapter F or G for aboveground tanks.
- Tank handling and inspection activities are performed by an individual possessing DEP certification in the appropriate category as required in Subchapters A and B.
- Underground storage tanks meet the applicable financial responsibility requirements of Subchapter H (relating to financial responsibility requirements).
- A Spill Prevention Response (SPR) Plan must be submitted to the appropriate DEP regional office for facilities that have aboveground storage tanks where the total capacity of all aboveground tanks is greater than 21,000 gallons.
- Other state and local permits required for operation of the tank system have been attained.

My signature represents to the Department that I own the storage tank(s) and am aware of the responsibilities and potential liabilities as an "owner" arising under the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I am also advised that statements made on this registration is made subject to the penalties of 18 PA. C.S.A. Section 4904 relating to unsworn falsification to authorities.

Type or Print Owner Name Gary Bowman

Owner Signature	Title	Date
	President	12/16/2021

Information & Invoices should be sent to:

- ☒ Tank Owner Contact
- ☒ Site Contact
- ☒ Facility Operator
- ☐ Other Responsible Party Identified Below

Organization Name or Registered Fictitious Name		Employer ID# (EIN)		Dun & Bradstreet ID#
NorthStar Contracting Group, Inc.				
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Bowman	Gary	P.	Sr.	
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Mailing Address Line 1	**Mailing Address Line 2**			
2250 East Adams Avenue				
Address Last Line – City		**State**	**ZIP+4**	**Country**
Philadelphia		PA	19124	USA
Contact Title			**Phone**	**Ext.**
President			610-636-4574	
E-mail Address				
Gbowman@northstar.com				
Client to Site (Facility) Relationship				

X. INSTALLER / REMOVER CERTIFICATION

This section must be completed by the certified tank handler(s) who is responsible for the installation or removal from service of the aboveground and underground storage tank systems listed in Section VI. Tank modification activity must be submitted on a "Tank Modification Report" form.

SIGNATURE & CERTIFICATION OF INSTALLER(S) / REMOVER(S)

As the certified tank handler responsible for the tank handling activities in the category or categories listed, I certify that all tank handling activities were conducted in compliance with the design, installation and operation standards of the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I also certify, under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided therein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Installer/Remover Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Installer/Remover Signature	Date
058A	Kristian Satterthwaite		5081	AFR	1557	Kristian Satterthwaite	11/22/2024

XI. INSPECTOR CERTIFICATION

This section must be completed by the DEP Certified Tank Inspector(s) who is responsible for verifying the installation standards for field constructed tanks and aboveground tanks greater than 21,000 gallons listed in Section VI. (Type or Print legibly) A DEP Certified Inspector may also be responsible for inspecting existing ASTs which are entering regulated service for the first time with no tank handling activities.

SIGNATURE & CERTIFICATION OF INSPECTOR(S)

As the certified tank inspector responsible for verifying tank handling activities and construction standards, I certify that the tank(s) listed below are constructed to appropriate industry standards and, if applicable, to manufacturer's specifications, that the tank(s) have been tested as required by industry standards; and that the tank(s) meet or exceed applicable design and operating standards; and are in compliance with the requirements of the Storage Tank and Spill Prevention Act of 1989, and all applicable regulations. I also certify under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided herein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Inspector Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Inspector Signature	Date

XII. SITE SPECIFIC INSTALLATION PERMIT NUMBER

If a site-specific permit was required for a new tank installation, write the tank number(s) and permit number(s) in the appropriate box.

Site-Specific Installation Permit	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#

JD2 Environmental Inc.
800 East Washington Street • West Chester, PA 19380 • 610.430.8151 • 610.430.8016 Fax • www.jd2env.com

December 14, 2021

VIA EMAIL (ELECTRONIC SUBMISSION)

Pennsylvania Department of Environmental Protection
Central Office - Division of Storage Tanks
Rachel Carson State Office Building
400 Market Street
Harrisburg, Pennsylvania 17101

Subject: **Philadelphia Energy Solutions Refining and Marketing, LLC (PES)**
PADEP Storage Tanks Registration/Permitting Application Form
PADEP Facility ID #51-33620 - Point Breeze Refinery

Dear PADEP:

On behalf of our client, JD2 Environmental, Inc. (JD2) is attaching the Pennsylvania Department of Environmental Protection's (PADEP's) Storage Tanks Registration/Permitting Application Form for the removal of the following aboveground storage tank (AST):

Facility Name	PADEP Facility ID #	PADEP Tank ID #	Owner Tank ID #	AMS Tank ID #	Removal Date
Point Breeze Refinery	51-33620	040A	PB 191	P-546	11/23/2021

If you have any questions regarding this submittal, please do not hesitate to contact me at (610) 430-8151.

Sincerely yours,
JD2 ENVIRONMENTAL, INC.

Kristian Satterthwaite
Environmental Scientist
PADEP Inspector #5081

KS:wc
Attachment

cc: REPSG

2630-PM-BECB0514 Rev. 6/2019
Form

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS

STORAGE TANKS REGISTRATION / PERMITTING APPLICATION FORM

Before completing this form, read the step-by-step instructions provided in this application package.

	DEP USE ONLY
51-33620 Facility ID #	Client ID#
	Site ID#
	Account #
	Auth ID#
Phila Ref Point Breeze Facility Name	APS ID#
	Master Auth ID#

I. PURPOSE OF SUBMITTAL

INITIAL (Applies to First-Time Facility Registration)

- ☐ Register Tanks(s) to be Used*
- ☐ Register Tank(s) to be Removed
- ☐ Register Tank(s) to be Temporarily Out of Use
- ☐ Register Tank(s) to be Closed in Place

AMENDED (Applies to Currently Registered Tank(s) or Existing Facility)

- ☐ Changed Owner Information
- ☐ Changed Facility Information
- ☐ Changed to Currently In Use Tank(s)*
- ☐ Changed to Temporarily Out of Use Tank(s)
- ☐ Changed Product
- ☐ Changed Contact Information
- ☐ Changed Facility Operator Information
- ☐ Added Tank(s) to Existing Facility*
- ☒ Changed to Permanently Closed Tank(s)/Removed
- ☐ Changed to Exempt Tank(s)

CHANGE OF OWNERSHIP

- ☐ Tanks Changed Ownership and Remain at Same Facility*

* **For Underground Storage Tanks (UST), attach the UST Operator Training Documentation Form (2630-PM-BECB0514a) and copies of the Class A and Class B operator training certificates.**

II. CURRENT OR NEW TANK OWNER / CLIENT INFORMATION

DEP Client ID#	Client Type/Code	Fee Kind (check one if applicable)		
298341		☐ Volunteer Fire Co/EMS Org	☐ State Govt	☐ Fed Govt

Organization Name or Registered Fictitious Name		Employer ID# (EIN)		Dun & Bradstreet ID#
Philadelphia Energy Solutions Refining and Marketing, LLC				
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Bowman	Gary	P.	Sr.	
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Mailing Address Line 1	**Mailing Address Line 2**			
3144 West Passyunk Avenue				
Address Last Line – City	**State**	**ZIP+4**	**Country**	
Philadelphia	PA	19145	USA	
Client Contact Last Name	**First Name**	**MI**	**Suffix**	
Bowman	Gary	P.	Sr.	
Client Contact Title		**Phone**	**Ext**	
President		610-636-4574		
E-mail Address			**FAX**	
Gbowman@northstar.com				

III. SITE INFORMATION

DEP Site ID# | Site Name

EPA ID# | Estimated Number of Employees to be Present at Site

Description of Site

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

Site Location Line 1 | Site Location Line 2

Site Location Last Line – City | State | ZIP+4

Detailed Written Directions to Site

Site Contact Last Name | First Name | MI | Suffix

Site Contact Title | Site Contact Firm

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4

Phone | Ext | FAX | E-mail Address

NAICS Codes (Two- & Three-Digit Codes – List All That Apply) | 6-Digit Code (Optional)

Site to Client Relationship

IIIa. PROPERTY OWNER INFORMATION

☐ Same as Tank Owner Identified in Section II. ☐ Different than Tank Owner Identified in Section II; identified below.

Organization Name or Registered Fictitious Name | Employer ID# (EIN) | Dun & Bradstreet ID#

Individual Last Name | First Name | MI | Suffix | SSN

Additional Individual Last Name | First Name | MI | Suffix | SSN

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4 | Country

Property Owner Contact Last Name | First Name | MI | Suffix

Property Owner Contact Title | Phone | Ext

E-mail Address | FAX

IV. FACILITY INFORMATION

DEP Storage Tank Facility ID# | **Facility Name** | **Facility Kind**

Facility Location Line 1 (if different than Site Location) | **Facility Location Line 2**

Facility Location Last Line - City | **State** | **ZIP+4**

Latitude/Longitude Point of Origin	**Latitude**			**Longitude**		
	Degrees	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**

Horizontal Accuracy Measure Feet --or-- Meters

Horizontal Reference Datum Code
- ☐ North American Datum of 1927
- ☐ North American Datum of 1983
- ☐ World Geodetic System of 1984

Horizontal Collection Method Code

Reference Point Code

Altitude Feet --or-- Meters

Altitude Datum Name
- ☐ The National Geodetic Vertical Datum of 1929
- ☐ The North American Vertical Datum of 1988 (NAVD88)

Altitude (Vertical) Location Datum Collection Method Code

Geometric Type Code

Data Collection Date

Source Map Scale Number Inch(es) = Feet

--or-- Centimeter(s) = Meters

Flammable & Combustible Liquid Permit # (if applicable)

State or Municipality that Issued the Permit

FACILITY OPERATOR INFORMATION

☐ **Same as Owner Identified in Section II.** ☐ **Different than Owner Identified in Section II; identified below.**

DEP Client ID# | **Client Type / Code**

Organization Name or Registered Fictitious Name | **Employer ID# (EIN)** | **Dun & Bradstreet ID#**

Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Additional Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Mailing Address Line 1 | **Mailing Address Line 2**

Address Last Line – City | **State** | **ZIP+4** | **Country**

Client Contact Last Name | **First Name** | **MI** | **Suffix**

Client Contact Title | **Phone** | **Ext**

E-mail Address | **FAX**

V. CHANGE OF OWNERSHIP INFORMATION

☐ **All Tanks Changed Ownership at the Facility**

☐ **Some Tanks Changed Ownership at the Facility** (List all applicable tank numbers in Section VI.)

OWNERSHIP CHANGE TO - Client information is noted in Section II.

OWNERSHIP CHANGE FROM (previous owner information)

Name

Employer ID# (EIN) or SSN

Mailing Address Line 1

Mailing Address Line 2

Address Last Line - City **State** **ZIP+4**

Previous Facility ID#

DATE OF SALE/TRANSFER	

SIGNATURE & CERTIFICATION OF PREVIOUS OWNER

Previous owner's signature is not available. As required, the "new" owner has attached a deed of transfer or other proof of ownership to this application. ☐ **Yes** ☐ **No** ☐ **N/A**

I have reviewed this form for submission to the Department. I certify under penalty of law as provided in 18 PA. C.S.A. §4903 (relating to false swearing) and 18 PA. C.S.A. §4904 (relating to unsworn falsification to authorities), that I have the authority to sign this Section for the transfer of permit or registration for the storage tanks listed herein. Further, I certify that all information provided in Section V is true, accurate and complete to the best of my knowledge and belief.

Type or Print Previous Owner Name

Previous Owner Signature **Title** **Date**

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VI. STORAGE DESCRIPTION

Type or print legibly each regulated storage tank at this facility under your ownership.

Status Codes: C-Currently in Use T-Temporarily Out of Use E-Exempt R-Removed P-Closed In Place

Type Codes: M-Manufactured F-Field Constructed

A. ABOVEGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code
040A	T	R	F	01/01/1958	11/23/2021	634,200	Recovered Oil			
A										
A										
A										
A										
A										
A										
A										
A										
A										

B. UNDERGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VII. ABOVEGROUND & UNDERGROUND NEW TANK INSTALLATION INFORMATION

The DEP Certified Installer should complete this section. New tanks listed in Section VI must also be listed in this Section. Write the Tank Number(s) and place an ☒ in the appropriate box for each component that was installed.

Tank Construction & Corrosion Protection (1)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Tank Manufacturer:						
Model:						
A. Unprotected Steel (Single Wall)	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Steel (Galvanic)	☐	☐	☐	☐	☐	☐
C. Cathodically Protected Steel (Impressed Current)	☐	☐	☐	☐	☐	☐
D. Unprotected Steel (Double Wall)	☐	☐	☐	☐	☐	☐
E. Fiberglass (Single Wall)	☐	☐	☐	☐	☐	☐
F. Fiberglass (Double Wall)	☐	☐	☐	☐	☐	☐
G. Steel w/Plastic or Fiberglass Jacket or Double Wall Act 100	☐	☐	☐	☐	☐	☐
H. Steel With FRP Coating (Act 100 or Equivalent)	☐	☐	☐	☐	☐	☐
I. Steel with Lined Interior	☐	☐	☐	☐	☐	☐
J. Concrete	☐	☐	☐	☐	☐	☐
O. Cathodically Protected Double Wall Steel (Galvanic)	☐	☐	☐	☐	☐	☐
P. Cathodically Protected Steel with Liner	☐	☐	☐	☐	☐	☐
Q. Double Bottom (ASTs Only)	☐	☐	☐	☐	☐	☐
R. Molded Plastic Form (ASTs Only)	☐	☐	☐	☐	☐	☐
S. Stainless Steel	☐	☐	☐	☐	☐	☐
T. Aluminum	☐	☐	☐	☐	☐	☐
U. Fire Protected Double Wall AST	☐	☐	☐	☐	☐	☐
V. Steel with Plastic or Fiberglass Jacket or Double Wall Act 100 with Anodes	☐	☐	☐	☐	☐	☐
W. Steel with FRP Coating (Act 100 or Equivalent) with Anodes	☐	☐	☐	☐	☐	☐
X. Molded Plastic Form (Double Wall) (AST's Only)	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Underground Piping Construction & Corrosion Protection – Single/Inner Wall (28)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Primary (Inner) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Underground Piping Construction & Corrosion Protection – Outer Wall (29)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Secondary (Outer) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
L. Poly-encased Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Aboveground Piping Construction & Corrosion Protection (3)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Carbon Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Single Wall Fiberglass	☐	☐	☐	☐	☐	☐
E. Single Wall Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
F. PVC	☐	☐	☐	☐	☐	☐
G. None	☐	☐	☐	☐	☐	☐
I. Double Wall - Metallic Primary	☐	☐	☐	☐	☐	☐
J. Double Wall - Rigid (FRP) Primary	☐	☐	☐	☐	☐	☐
K. Double Wall - Flexible Primary	☐	☐	☐	☐	☐	☐
L. Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Product Delivery System (4)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Suction: Check valve at pump	☐	☐	☐	☐	☐	☐
B. Suction: Check valve at tank	☐	☐	☐	☐	☐	☐
C. Pressure	☐	☐	☐	☐	☐	☐
D. Gravity fed	☐	☐	☐	☐	☐	☐
E. None	☐	☐	☐	☐	☐	☐

Spill Prevention (6)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
S. Permanently installed and liquid tight (single-walled)	☐	☐	☐	☐	☐	☐
D. Permanently installed and liquid tight (double-walled)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Overfill Prevention (7)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Overfill alarm	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
S. Drop tube shutoff device	☐	☐	☐	☐	☐	☐
Y. Yes (AST only) Type: _____	☐	☐	☐	☐	☐	☐

Emergency Containment (16) ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes (includes double-walled tanks with required appurtenances)	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Secondary Containment (17) Single Wall ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Stage I Vapor Recovery (19) USTs and ASTs when applicable	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Coaxial	☐	☐	☐	☐	☐	☐
B. 2 Point	☐	☐	☐	☐	☐	☐
N. None or incomplete	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Tank-top Containment Sumps Present (Product Piping Only) (21) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some penetrations and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. At all penetrations and liquid tight	☐	☐	☐	☐	☐	☐

Under-dispenser Containment Present (22) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some dispensers and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. Under all dispensers and liquid tight	☐	☐	☐	☐	☐	☐

Line Leak Detector Shuts Off Pump (23) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Tank Supplies Emergency Generator (25)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VIII. ABOVEGROUND & UNDERGROUND TANK INFORMATION FOR PERMANENT CLOSURE

Write the Tank Number(s) and place an ☒ in the appropriate box for each tank that was removed or closed in place.

Items 2 & 3 below apply to large ASTs and all USTs	Tank # 040A	Tank #	Tank #	Tank #	Tank #	Tank #
1. Contamination suspected or observed and notification of contamination form was submitted to the appropriate DEP regional office.	☐	☐	☐	☐	☐	☐
2. Closure document submitted to the appropriate DEP regional office.	☒	☐	☐	☐	☐	☐
3. Closure document kept on file by owner.	☒	☐	☐	☐	☐	☐

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. This registration is conditioned upon compliance with provisions of the Storage Tank and Spill Prevention Act of 1989, all applicable regulations, and with the requirements for obtaining and maintaining a permit required under this Act. I certify my responsibility for assuring the following permit requirements:

- Storage tank systems are in compliance with applicable administrative, technical and operational requirements as specified in Subchapter E for underground tanks or Subchapter F or G for aboveground tanks.
- Tank handling and inspection activities are performed by an individual possessing DEP certification in the appropriate category as required in Subchapters A and B.
- Underground storage tanks meet the applicable financial responsibility requirements of Subchapter H (relating to financial responsibility requirements).
- A Spill Prevention Response (SPR) Plan must be submitted to the appropriate DEP regional office for facilities that have aboveground storage tanks where the total capacity of all aboveground tanks is greater than 21,000 gallons.
- Other state and local permits required for operation of the tank system have been attained.

My signature represents to the Department that I own the storage tank(s) and am aware of the responsibilities and potential liabilities as an "owner" arising under the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I am also advised that statements made on this registration is made subject to the penalties of 18 PA. C.S.A. Section 4904 relating to unsworn falsification to authorities.

Type or Print Owner Name Gary Bowman

Owner Signature	President Title	12/16/2021 Date

Information & Invoices should be sent to:

- ☒ Tank Owner Contact
- ☒ Site Contact
- ☒ Facility Operator
- ☐ Other Responsible Party Identified Below

Organization Name or Registered Fictitious Name			Employer ID# (EIN)	Dun & Bradstreet ID#
NorthStar Contracting Group, Inc.				
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Bowman	Gary	P.	Sr.	
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Mailing Address Line 1	**Mailing Address Line 2**			
2250 East Adams Avenue				
Address Last Line – City		**State**	**ZIP+4**	**Country**
Philadelphia		PA	19124	USA
Contact Title			**Phone**	**Ext.**
President			610-636-4574	
E-mail Address				
Gbowman@northstar.com				
Client to Site (Facility) Relationship				

X. INSTALLER / REMOVER CERTIFICATION

This section must be completed by the certified tank handler(s) who is responsible for the installation or removal from service of the aboveground and underground storage tank systems listed in Section VI. Tank modification activity must be submitted on a "Tank Modification Report" form.

SIGNATURE & CERTIFICATION OF INSTALLER(S) / REMOVER(S)

As the certified tank handler responsible for the tank handling activities in the category or categories listed, I certify that all tank handling activities were conducted in compliance with the design, installation and operation standards of the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I also certify, under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided therein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Installer/Remover Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Installer/Remover Signature	Date
040 A	Kristian Satterthwaite		5081	AFR	1557	Kristian Satterthwaite	11/27/24

XI. INSPECTOR CERTIFICATION

This section must be completed by the DEP Certified Tank Inspector(s) who is responsible for verifying the installation standards for field constructed tanks and aboveground tanks greater than 21,000 gallons listed in Section VI. (Type or Print legibly) A DEP Certified Inspector may also be responsible for inspecting existing ASTs which are entering regulated service for the first time with no tank handling activities.

SIGNATURE & CERTIFICATION OF INSPECTOR(S)

As the certified tank inspector responsible for verifying tank handling activities and construction standards, I certify that the tank(s) listed below are constructed to appropriate industry standards and, if applicable, to manufacturer's specifications; that the tank(s) have been tested as required by industry standards; and that the tank(s) meet or exceed applicable design and operating standards; and are in compliance with the requirements of the Storage Tank and Spill Prevention Act of 1989, and all applicable regulations. I also certify under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided herein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Inspector Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Inspector Signature	Date

XII. SITE SPECIFIC INSTALLATION PERMIT NUMBER

If a site-specific permit was required for a new tank installation, write the tank number(s) and permit number(s) in the appropriate box.

Site-Specific Installation Permit	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#

JD2 Environmental Inc.
800 East Washington Street • West Chester, PA 19380 • 610.430.8151 • 610.430.8016 Fax • www.jd2env.com

December 14, 2021

VIA EMAIL (ELECTRONIC SUBMISSION)

Pennsylvania Department of Environmental Protection
Central Office - Division of Storage Tanks
Rachel Carson State Office Building
400 Market Street
Harrisburg, Pennsylvania 17101

Subject: Philadelphia Energy Solutions Refining and Marketing, LLC (PES)
PADEP Storage Tanks Registration/Permitting Application Form
PADEP Facility ID #51-33620 - Point Breeze Refinery

Dear PADEP:

On behalf of our client, JD2 Environmental, Inc. (JD2) is attaching the Pennsylvania Department of Environmental Protection's (PADEP's) Storage Tanks Registration/Permitting Application Form for the removal of the following aboveground storage tank (AST):

Facility Name	PADEP Facility ID #	PADEP Tank ID #	Owner Tank ID #	AMS Tank ID #	Removal Date
Point Breeze Refinery	51-33620	057A	PB 883	P-601	11/24/2021

If you have any questions regarding this submittal, please do not hesitate to contact me at (610) 430-8151.

Sincerely yours,
JD2 ENVIRONMENTAL, INC.

Kristian Satterthwaite
Environmental Scientist
PADEP Inspector #5081

KS:wc
Attachment

cc: REPSG

2630-PM-BECB0514 Rev. 6/2019
Form

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS

STORAGE TANKS REGISTRATION / PERMITTING APPLICATION FORM

Before completing this form, read the step-by-step instructions provided in this application package.

	DEP USE ONLY
	Client ID#
51-33620 Facility ID #	Site ID#
	Account #
	Auth ID#
Phila Ref Point Breeze Facility Name	APS ID#
	Master Auth ID#

I. PURPOSE OF SUBMITTAL

INITIAL (Applies to First-Time Facility Registration)

- ☐ Register Tanks(s) to be Used*
- ☐ Register Tank(s) to be Removed
- ☐ Register Tank(s) to be Temporarily Out of Use
- ☐ Register Tank(s) to be Closed in Place

AMENDED (Applies to Currently Registered Tank(s) or Existing Facility)

- ☐ Changed Owner Information
- ☐ Changed Facility Information
- ☐ Changed to Currently In Use Tank(s)*
- ☐ Changed to Temporarily Out of Use Tank(s)
- ☐ Changed Product
- ☐ Changed Contact Information
- ☐ Changed Facility Operator Information
- ☐ Added Tank(s) to Existing Facility*
- ☒ Changed to Permanently Closed Tank(s)/Removed
- ☐ Changed to Exempt Tank(s)

CHANGE OF OWNERSHIP

- ☐ Tanks Changed Ownership and Remain at Same Facility*

* **For Underground Storage Tanks (UST), attach the UST Operator Training Documentation Form (2630-PM-BECB0514a) and copies of the Class A and Class B operator training certificates.**

II. CURRENT OR NEW TANK OWNER / CLIENT INFORMATION

DEP Client ID#	Client Type/Code	Fee Kind (check one if applicable)
298341		☐ Volunteer Fire Co/EMS Org ☐ State Govt ☐ Fed Govt

Organization Name or Registered Fictitious Name	Employer ID# (EIN)	Dun & Bradstreet ID#
Philadelphia Energy Solutions Refining and Marketing, LLC		

Individual Last Name	First Name	MI	Suffix	SSN
Bowman	Gary	P.	Sr.	

Additional Individual Last Name	First Name	MI	Suffix	SSN

Mailing Address Line 1	Mailing Address Line 2
3144 West Passyunk Avenue	

Address Last Line – City	State	ZIP+4	Country
Philadelphia	PA	19145	USA

Client Contact Last Name	First Name	MI	Suffix
Bowman	Gary	P.	Sr.

Client Contact Title	Phone	Ext
President	610-636-4574	

E-mail Address	FAX
Gbowman@northstar.com	

III. SITE INFORMATION

DEP Site ID# | Site Name

EPA ID# | Estimated Number of Employees to be Present at Site

Description of Site

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

Site Location Line 1 | Site Location Line 2

Site Location Last Line – City | State | ZIP+4

Detailed Written Directions to Site

Site Contact Last Name | First Name | MI | Suffix

Site Contact Title | Site Contact Firm

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4

Phone | Ext | FAX | E-mail Address

NAICS Codes (Two- & Three-Digit Codes – List All That Apply) | 6-Digit Code (Optional)

Site to Client Relationship

IIIa. PROPERTY OWNER INFORMATION

☐ Same as Tank Owner Identified in Section II. ☐ Different than Tank Owner Identified in Section II; identified below.

Organization Name or Registered Fictitious Name | Employer ID# (EIN) | Dun & Bradstreet ID#

Individual Last Name | First Name | MI | Suffix | SSN

Additional Individual Last Name | First Name | MI | Suffix | SSN

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4 | Country

Property Owner Contact Last Name | First Name | MI | Suffix

Property Owner Contact Title | Phone | Ext

E-mail Address | FAX

IV. FACILITY INFORMATION

DEP Storage Tank Facility ID# | **Facility Name** | **Facility Kind**

Facility Location Line 1 (if different than Site Location) | **Facility Location Line 2**

Facility Location Last Line - City | **State** | **ZIP+4**

Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**

Horizontal Accuracy Measure Feet *--or--* Meters

Horizontal Reference Datum Code
- ☐ North American Datum of 1927
- ☐ North American Datum of 1983
- ☐ World Geodetic System of 1984

Horizontal Collection Method Code

Reference Point Code

Altitude Feet *--or--* Meters

Altitude Datum Name
- ☐ The National Geodetic Vertical Datum of 1929
- ☐ The North American Vertical Datum of 1988 (NAVD88)

Altitude (Vertical) Location Datum Collection Method Code

Geometric Type Code

Data Collection Date

Source Map Scale Number Inch(es) = Feet

--or-- Centimeter(s) = Meters

Flammable & Combustible Liquid Permit # (if applicable)

State or Municipality that Issued the Permit

FACILITY OPERATOR INFORMATION

☐ **Same as Owner Identified in Section II.** ☐ **Different than Owner Identified in Section II; identified below.**

DEP Client ID# | **Client Type / Code**

Organization Name or Registered Fictitious Name | **Employer ID# (EIN)** | **Dun & Bradstreet ID#**

Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Additional Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Mailing Address Line 1 | **Mailing Address Line 2**

Address Last Line – City | **State** | **ZIP+4** | **Country**

Client Contact Last Name | **First Name** | **MI** | **Suffix**

Client Contact Title | **Phone** | **Ext**

E-mail Address | **FAX**

V. CHANGE OF OWNERSHIP INFORMATION

☐ **All Tanks Changed Ownership at the Facility**

☐ **Some Tanks Changed Ownership at the Facility** (List all applicable tank numbers in Section VI.)

OWNERSHIP CHANGE TO - Client information is noted in Section II.

OWNERSHIP CHANGE FROM (previous owner information)

Name			
Employer ID# (EIN) or SSN			
Mailing Address Line 1			
Mailing Address Line 2			
Address Last Line - City		**State**	**ZIP+4**
Previous Facility ID#			

DATE OF SALE/TRANSFER	

SIGNATURE & CERTIFICATION OF PREVIOUS OWNER

Previous owner's signature is not available. As required, the "new" owner has attached a deed of transfer or other proof of ownership to this application. ☐ **Yes** ☐ **No** ☐ **N/A**

I have reviewed this form for submission to the Department. I certify under penalty of law as provided in 18 PA. C.S.A. §4903 (relating to false swearing) and 18 PA. C.S.A. §4904 (relating to unsworn falsification to authorities), that I have the authority to sign this Section for the transfer of permit or registration for the storage tanks listed herein. Further, I certify that all information provided in Section V is true, accurate and complete to the best of my knowledge and belief.

Type or Print Previous Owner Name

Previous Owner Signature	**Title**	**Date**

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VI. STORAGE DESCRIPTION

Type or print legibly each regulated storage tank at this facility under your ownership.
Status Codes: C-Currently in Use T-Temporarily Out of Use E-Exempt R-Removed P-Closed In Place
Type Codes: M-Manufactured F-Field Constructed

A. ABOVEGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code
057A	C	R	F	01/01/1961	11/24/2021	8,568,600		Crude Oil		
A										
A										
A										
A										
A										
A										
A										
A										
A										

B. UNDERGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VII. ABOVEGROUND & UNDERGROUND NEW TANK INSTALLATION INFORMATION

The DEP Certified Installer should complete this section. New tanks listed in Section VI must also be listed in this Section. Write the Tank Number(s) and place an ☒ in the appropriate box for each component that was installed.

Tank Construction & Corrosion Protection (1)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Tank Manufacturer:						
Model:						
A. Unprotected Steel (Single Wall)	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Steel (Galvanic)	☐	☐	☐	☐	☐	☐
C. Cathodically Protected Steel (Impressed Current)	☐	☐	☐	☐	☐	☐
D. Unprotected Steel (Double Wall)	☐	☐	☐	☐	☐	☐
E. Fiberglass (Single Wall)	☐	☐	☐	☐	☐	☐
F. Fiberglass (Double Wall)	☐	☐	☐	☐	☐	☐
G. Steel w/Plastic or Fiberglass Jacket or Double Wall Act 100	☐	☐	☐	☐	☐	☐
H. Steel With FRP Coating (Act 100 or Equivalent)	☐	☐	☐	☐	☐	☐
I. Steel with Lined Interior	☐	☐	☐	☐	☐	☐
J. Concrete	☐	☐	☐	☐	☐	☐
O. Cathodically Protected Double Wall Steel (Galvanic)	☐	☐	☐	☐	☐	☐
P. Cathodically Protected Steel with Liner	☐	☐	☐	☐	☐	☐
Q. Double Bottom (ASTs Only)	☐	☐	☐	☐	☐	☐
R. Molded Plastic Form (ASTs Only)	☐	☐	☐	☐	☐	☐
S. Stainless Steel	☐	☐	☐	☐	☐	☐
T. Aluminum	☐	☐	☐	☐	☐	☐
U. Fire Protected Double Wall AST	☐	☐	☐	☐	☐	☐
V. Steel with Plastic or Fiberglass Jacket or Double Wall Act 100 with Anodes	☐	☐	☐	☐	☐	☐
W. Steel with FRP Coating (Act 100 or Equivalent) with Anodes	☐	☐	☐	☐	☐	☐
X. Molded Plastic Form (Double Wall) (AST's Only)	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Underground Piping Construction & Corrosion Protection – Single/Inner Wall (28)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Primary (Inner) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Underground Piping Construction & Corrosion Protection – Outer Wall (29)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Secondary (Outer) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
L. Poly-encased Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Aboveground Piping Construction & Corrosion Protection (3)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Carbon Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Single Wall Fiberglass	☐	☐	☐	☐	☐	☐
E. Single Wall Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
F. PVC	☐	☐	☐	☐	☐	☐
G. None	☐	☐	☐	☐	☐	☐
I. Double Wall - Metallic Primary	☐	☐	☐	☐	☐	☐
J. Double Wall - Rigid (FRP) Primary	☐	☐	☐	☐	☐	☐
K. Double Wall - Flexible Primary	☐	☐	☐	☐	☐	☐
L. Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Product Delivery System (4)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Suction: Check valve at pump	☐	☐	☐	☐	☐	☐
B. Suction: Check valve at tank	☐	☐	☐	☐	☐	☐
C. Pressure	☐	☐	☐	☐	☐	☐
D. Gravity fed	☐	☐	☐	☐	☐	☐
E. None	☐	☐	☐	☐	☐	☐

Spill Prevention (6)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
S. Permanently installed and liquid tight (single-walled)	☐	☐	☐	☐	☐	☐
D. Permanently installed and liquid tight (double-walled)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Overfill Prevention (7)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Overfill alarm	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
S. Drop tube shutoff device	☐	☐	☐	☐	☐	☐
Y. Yes (AST only) Type: _____	☐	☐	☐	☐	☐	☐

Emergency Containment (16) ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes (includes double-walled tanks with required appurtenances)	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Secondary Containment (17) Single Wall ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Stage I Vapor Recovery (19) USTs and ASTs when applicable	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Coaxial	☐	☐	☐	☐	☐	☐
B. 2 Point	☐	☐	☐	☐	☐	☐
N. None or incomplete	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Tank-top Containment Sumps Present (Product Piping Only) (21) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some penetrations and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. At all penetrations and liquid tight	☐	☐	☐	☐	☐	☐

Under-dispenser Containment Present (22) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some dispensers and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. Under all dispensers and liquid tight	☐	☐	☐	☐	☐	☐

Line Leak Detector Shuts Off Pump (23) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Tank Supplies Emergency Generator (25)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VIII. ABOVEGROUND & UNDERGROUND TANK INFORMATION FOR PERMANENT CLOSURE

Write the Tank Number(s) and place an ☒ in the appropriate box for each tank that was removed or closed in place.

Items 2 & 3 below apply to large ASTs and all USTs	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
	057A					
1. Contamination suspected or observed and notification of contamination form was submitted to the appropriate DEP regional office.	☐	☐	☐	☐	☐	☐
2. Closure document submitted to the appropriate DEP regional office.	☒	☐	☐	☐	☐	☐
3. Closure document kept on file by owner.	☒	☐	☐	☐	☐	☐

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. This registration is conditioned upon compliance with provisions of the Storage Tank and Spill Prevention Act of 1989, all applicable regulations, and with the requirements for obtaining and maintaining a permit required under this Act. I certify my responsibility for assuring the following permit requirements:

- Storage tank systems are in compliance with applicable administrative, technical and operational requirements as specified in Subchapter E for underground tanks or Subchapter F or G for aboveground tanks.
- Tank handling and inspection activities are performed by an individual possessing DEP certification in the appropriate category as required in Subchapters A and B.
- Underground storage tanks meet the applicable financial responsibility requirements of Subchapter H (relating to financial responsibility requirements).
- A Spill Prevention Response (SPR) Plan must be submitted to the appropriate DEP regional office for facilities that have aboveground storage tanks where the total capacity of all aboveground tanks is greater than 21,000 gallons.
- Other state and local permits required for operation of the tank system have been attained.

My signature represents to the Department that I own the storage tank(s) and am aware of the responsibilities and potential liabilities as an "owner" arising under the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I am also advised that statements made on this registration is made subject to the penalties of 18 PA. C.S.A. Section 4904 relating to unsworn falsification to authorities.

Type or Print Owner Name Gary Bowman

Owner Signature	Title	Date
	President	12/16/2021

Information & Invoices should be sent to:

- ☒ **Tank Owner Contact**
- ☒ **Site Contact**
- ☒ **Facility Operator**
- ☐ **Other Responsible Party Identified Below**

Organization Name or Registered Fictitious Name		Employer ID# (EIN)		Dun & Bradstreet ID#
NorthStar Contracting Group, Inc.				
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Bowman	Gary	P.	Sr.	
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Mailing Address Line 1	**Mailing Address Line 2**			
2250 East Adams Avenue				
Address Last Line – City		**State**	**ZIP+4**	**Country**
Philadelphia		PA	19124	USA
Contact Title			**Phone**	**Ext.**
President			610-636-4574	
E-mail Address				
Gbowman@northstar.com				
Client to Site (Facility) Relationship				

X. INSTALLER / REMOVER CERTIFICATION

This section must be completed by the certified tank handler(s) who is responsible for the installation or removal from service of the aboveground and underground storage tank systems listed in Section VI. Tank modification activity must be submitted on a "Tank Modification Report" form.

SIGNATURE & CERTIFICATION OF INSTALLER(S) / REMOVER(S)

As the certified tank handler responsible for the tank handling activities in the category or categories listed, I certify that all tank handling activities were conducted in compliance with the design, installation and operation standards of the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I also certify, under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided therein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Installer/Remover Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Installer/Remover Signature	Date
057A	Kristian Satterthwaite		5081	AFR	1557	Kristian Satterthwaite	12/7/2021

XI. INSPECTOR CERTIFICATION

This section must be completed by the DEP Certified Tank Inspector(s) who is responsible for verifying the installation standards for field constructed tanks and aboveground tanks greater than 21,000 gallons listed in Section VI. (Type or Print legibly) A DEP Certified Inspector may also be responsible for inspecting existing ASTs which are entering regulated service for the first time with no tank handling activities.

SIGNATURE & CERTIFICATION OF INSPECTOR(S)

As the certified tank inspector responsible for verifying tank handling activities and construction standards, I certify that the tank(s) listed below are constructed to appropriate industry standards and, if applicable, to manufacturer's specifications; that the tank(s) have been tested as required by industry standards; and that the tank(s) meet or exceed applicable design and operating standards; and are in compliance with the requirements of the Storage Tank and Spill Prevention Act of 1989, and all applicable regulations. I also certify under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided herein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Inspector Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Inspector Signature	Date

XII. SITE SPECIFIC INSTALLATION PERMIT NUMBER

If a site-specific permit was required for a new tank installation, write the tank number(s) and permit number(s) in the appropriate box.

Site-Specific Installation Permit	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#

JD2 Environmental Inc.
800 East Washington Street • West Chester, PA 19380 • 610.430.8151 • 610.430.8016 Fax • www.jd2env.com

December 14, 2021

VIA EMAIL (ELECTRONIC SUBMISSION)

Pennsylvania Department of Environmental Protection
Central Office - Division of Storage Tanks
Rachel Carson State Office Building
400 Market Street
Harrisburg, Pennsylvania 17101

Subject: **Philadelphia Energy Solutions Refining and Marketing, LLC (PES)**
PADEP Storage Tanks Registration/Permitting Application Form
PADEP Facility ID #51-33620 - Point Breeze Refinery

Dear PADEP:

On behalf of our client, JD2 Environmental, Inc. (JD2) is attaching the Pennsylvania Department of Environmental Protection's (PADEP's) Storage Tanks Registration/Permitting Application Form for the removal of the following aboveground storage tank (AST):

Facility Name	PADEP Facility ID #	PADEP Tank ID #	Owner Tank ID #	AMS Tank ID #	Removal Date
Point Breeze Refinery	51-33620	047A	PB 823	P-576	12/3/2021

If you have any questions regarding this submittal, please do not hesitate to contact me at (610) 430-8151.

Sincerely yours,
JD2 ENVIRONMENTAL, INC.

Kristian Satterthwaite
Environmental Scientist
PADEP Inspector #5081

KS:wc
Attachment

cc: REPSG

2630-PM-BECB0514 Rev. 6/2019
Form

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS

STORAGE TANKS REGISTRATION / PERMITTING APPLICATION FORM

Before completing this form, read the step-by-step instructions provided in this application package.

	DEP USE ONLY
51-33620 Facility ID #	Client ID#
	Site ID#
	Account #
	Auth ID#
Phila Ref Point Breeze Facility Name	APS ID#
	Master Auth ID#

I. PURPOSE OF SUBMITTAL

INITIAL (Applies to First-Time Facility Registration)

- ☐ Register Tanks(s) to be Used*
- ☐ Register Tank(s) to be Removed
- ☐ Register Tank(s) to be Temporarily Out of Use
- ☐ Register Tank(s) to be Closed in Place

AMENDED (Applies to Currently Registered Tank(s) or Existing Facility)

- ☐ Changed Owner Information
- ☐ Changed Facility Information
- ☐ Changed to Currently In Use Tank(s)*
- ☐ Changed to Temporarily Out of Use Tank(s)
- ☐ Changed Product
- ☐ Changed Contact Information
- ☐ Changed Facility Operator Information
- ☐ Added Tank(s) to Existing Facility*
- ☒ Changed to Permanently Closed Tank(s)/Removed
- ☐ Changed to Exempt Tank(s)

CHANGE OF OWNERSHIP

- ☐ Tanks Changed Ownership and Remain at Same Facility*

* **For Underground Storage Tanks (UST), attach the UST Operator Training Documentation Form (2630-PM-BECB0514a) and copies of the Class A and Class B operator training certificates.**

II. CURRENT OR NEW TANK OWNER / CLIENT INFORMATION

DEP Client ID#	Client Type/Code	Fee Kind (check one if applicable)		
298341		☐ Volunteer Fire Co/EMS Org	☐ State Govt	☐ Fed Govt

Organization Name or Registered Fictitious Name		Employer ID# (EIN)		Dun & Bradstreet ID#
Philadelphia Energy Solutions Refining and Marketing, LLC				
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Bowman	Gary	P.	Sr.	
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**

Mailing Address Line 1	Mailing Address Line 2		
3144 West Passyunk Avenue			
Address Last Line – City	**State**	**ZIP+4**	**Country**
Philadelphia	PA	19145	USA
Client Contact Last Name	**First Name**	**MI**	**Suffix**
Bowman	Gary	P.	Sr.
Client Contact Title		**Phone**	**Ext**
President		610-636-4574	
E-mail Address			**FAX**
Gbowman@northstar.com			

III. SITE INFORMATION

DEP Site ID# | Site Name

EPA ID# | Estimated Number of Employees to be Present at Site

Description of Site

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

Site Location Line 1 | Site Location Line 2

Site Location Last Line – City | State | ZIP+4

Detailed Written Directions to Site

Site Contact Last Name | First Name | MI | Suffix

Site Contact Title | Site Contact Firm

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4

Phone | Ext | FAX | E-mail Address

NAICS Codes (Two- & Three-Digit Codes – List All That Apply) | 6-Digit Code (Optional)

Site to Client Relationship

IIIa. PROPERTY OWNER INFORMATION

☐ Same as Tank Owner Identified in Section II. ☐ Different than Tank Owner Identified in Section II; identified below.

Organization Name or Registered Fictitious Name | Employer ID# (EIN) | Dun & Bradstreet ID#

Individual Last Name | First Name | MI | Suffix | SSN

Additional Individual Last Name | First Name | MI | Suffix | SSN

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4 | Country

Property Owner Contact Last Name | First Name | MI | Suffix

Property Owner Contact Title | Phone | Ext

E-mail Address | FAX

IV. FACILITY INFORMATION

DEP Storage Tank Facility ID# | **Facility Name** | **Facility Kind**

Facility Location Line 1 (if different than Site Location) | **Facility Location Line 2**

Facility Location Last Line - City | **State** | **ZIP+4**

Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

Horizontal Accuracy Measure Feet --or-- Meters

Horizontal Reference Datum Code
- ☐ North American Datum of 1927
- ☐ North American Datum of 1983
- ☐ World Geodetic System of 1984

Horizontal Collection Method Code

Reference Point Code

Altitude Feet --or-- Meters

Altitude Datum Name
- ☐ The National Geodetic Vertical Datum of 1929
- ☐ The North American Vertical Datum of 1988 (NAVD88)

Altitude (Vertical) Location Datum Collection Method Code

Geometric Type Code

Data Collection Date

Source Map Scale Number Inch(es) = Feet

--or-- Centimeter(s) = Meters

Flammable & Combustible Liquid Permit # (if applicable)

State or Municipality that Issued the Permit

FACILITY OPERATOR INFORMATION

☐ **Same as Owner Identified in Section II.** ☐ **Different than Owner Identified in Section II; identified below.**

DEP Client ID# | **Client Type / Code**

Organization Name or Registered Fictitious Name | **Employer ID# (EIN)** | **Dun & Bradstreet ID#**

Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Additional Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Mailing Address Line 1 | **Mailing Address Line 2**

Address Last Line – City | **State** | **ZIP+4** | **Country**

Client Contact Last Name | **First Name** | **MI** | **Suffix**

Client Contact Title | **Phone** | **Ext**

E-mail Address | **FAX**

V. CHANGE OF OWNERSHIP INFORMATION

☐ **All Tanks Changed Ownership at the Facility**

☐ **Some Tanks Changed Ownership at the Facility** (List all applicable tank numbers in Section VI.)

OWNERSHIP CHANGE TO - Client information is noted in Section II.

OWNERSHIP CHANGE FROM (previous owner information)

Name

Employer ID# (EIN) or SSN

Mailing Address Line 1

Mailing Address Line 2

Address Last Line - City **State** **ZIP+4**

Previous Facility ID#

DATE OF SALE/TRANSFER	

SIGNATURE & CERTIFICATION OF PREVIOUS OWNER

Previous owner's signature is not available. As required, the "new" owner has attached a deed of transfer or other proof of ownership to this application. ☐ **Yes** ☐ **No** ☐ **N/A**

I have reviewed this form for submission to the Department. I certify under penalty of law as provided in 18 PA. C.S.A. §4903 (relating to false swearing) and 18 PA. C.S.A. §4904 (relating to unsworn falsification to authorities), that I have the authority to sign this Section for the transfer of permit or registration for the storage tanks listed herein. Further, I certify that all information provided in Section V is true, accurate and complete to the best of my knowledge and belief.

Type or Print Previous Owner Name

Previous Owner Signature **Title** **Date**

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VI. STORAGE DESCRIPTION

Type or print legibly each regulated storage tank at this facility under your ownership.

Status Codes: C-Currently in Use T-Temporarily Out of Use E-Exempt R-Removed P-Closed In Place

Type Codes: M-Manufactured F-Field Constructed

A. ABOVEGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code
047A	T	R	F	01/01/1941	12/03/2021	5,846,400		Low Sulfer Diesel		
A										
A										
A										
A										
A										
A										
A										
A										
A										

B. UNDERGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VII. ABOVEGROUND & UNDERGROUND NEW TANK INSTALLATION INFORMATION

The DEP Certified Installer should complete this section. New tanks listed in Section VI must also be listed in this Section. Write the Tank Number(s) and place an ☒ in the appropriate box for each component that was installed.

Tank Construction & Corrosion Protection (1)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Tank Manufacturer:						
Model:						
A. Unprotected Steel (Single Wall)	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Steel (Galvanic)	☐	☐	☐	☐	☐	☐
C. Cathodically Protected Steel (Impressed Current)	☐	☐	☐	☐	☐	☐
D. Unprotected Steel (Double Wall)	☐	☐	☐	☐	☐	☐
E. Fiberglass (Single Wall)	☐	☐	☐	☐	☐	☐
F. Fiberglass (Double Wall)	☐	☐	☐	☐	☐	☐
G. Steel w/Plastic or Fiberglass Jacket or Double Wall Act 100	☐	☐	☐	☐	☐	☐
H. Steel With FRP Coating (Act 100 or Equivalent)	☐	☐	☐	☐	☐	☐
I. Steel with Lined Interior	☐	☐	☐	☐	☐	☐
J. Concrete	☐	☐	☐	☐	☐	☐
O. Cathodically Protected Double Wall Steel (Galvanic)	☐	☐	☐	☐	☐	☐
P. Cathodically Protected Steel with Liner	☐	☐	☐	☐	☐	☐
Q. Double Bottom (ASTs Only)	☐	☐	☐	☐	☐	☐
R. Molded Plastic Form (ASTs Only)	☐	☐	☐	☐	☐	☐
S. Stainless Steel	☐	☐	☐	☐	☐	☐
T. Aluminum	☐	☐	☐	☐	☐	☐
U. Fire Protected Double Wall AST	☐	☐	☐	☐	☐	☐
V. Steel with Plastic or Fiberglass Jacket or Double Wall Act 100 with Anodes	☐	☐	☐	☐	☐	☐
W. Steel with FRP Coating (Act 100 or Equivalent) with Anodes	☐	☐	☐	☐	☐	☐
X. Molded Plastic Form (Double Wall) (AST's Only)	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Underground Piping Construction & Corrosion Protection – Single/Inner Wall (28)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Primary (Inner) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Underground Piping Construction & Corrosion Protection – Outer Wall (29)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Secondary (Outer) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
L. Poly-encased Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Aboveground Piping Construction & Corrosion Protection (3)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Carbon Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Single Wall Fiberglass	☐	☐	☐	☐	☐	☐
E. Single Wall Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
F. PVC	☐	☐	☐	☐	☐	☐
G. None	☐	☐	☐	☐	☐	☐
I. Double Wall - Metallic Primary	☐	☐	☐	☐	☐	☐
J. Double Wall - Rigid (FRP) Primary	☐	☐	☐	☐	☐	☐
K. Double Wall - Flexible Primary	☐	☐	☐	☐	☐	☐
L. Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Product Delivery System (4)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Suction: Check valve at pump	☐	☐	☐	☐	☐	☐
B. Suction: Check valve at tank	☐	☐	☐	☐	☐	☐
C. Pressure	☐	☐	☐	☐	☐	☐
D. Gravity fed	☐	☐	☐	☐	☐	☐
E. None	☐	☐	☐	☐	☐	☐

Spill Prevention (6)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
S. Permanently installed and liquid tight (single-walled)	☐	☐	☐	☐	☐	☐
D. Permanently installed and liquid tight (double-walled)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Overfill Prevention (7)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Overfill alarm	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
S. Drop tube shutoff device	☐	☐	☐	☐	☐	☐
Y. Yes (AST only) Type: _____	☐	☐	☐	☐	☐	☐

Emergency Containment (16) ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes (includes double-walled tanks with required appurtenances)	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Secondary Containment (17) Single Wall ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Stage I Vapor Recovery (19) USTs and ASTs when applicable	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Coaxial	☐	☐	☐	☐	☐	☐
B. 2 Point	☐	☐	☐	☐	☐	☐
N. None or incomplete	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Tank-top Containment Sumps Present (Product Piping Only) (21) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some penetrations and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. At all penetrations and liquid tight	☐	☐	☐	☐	☐	☐

Under-dispenser Containment Present (22) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some dispensers and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. Under all dispensers and liquid tight	☐	☐	☐	☐	☐	☐

Line Leak Detector Shuts Off Pump (23) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Tank Supplies Emergency Generator (25)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VIII. ABOVEGROUND & UNDERGROUND TANK INFORMATION FOR PERMANENT CLOSURE

Write the Tank Number(s) and place an ☒ in the appropriate box for each tank that was removed or closed in place.

Items 2 & 3 below apply to large ASTs and all USTs	Tank # 047A	Tank #	Tank #	Tank #	Tank #	Tank #
1. Contamination suspected or observed and notification of contamination form was submitted to the appropriate DEP regional office.	☐	☐	☐	☐	☐	☐
2. Closure document submitted to the appropriate DEP regional office.	☒	☐	☐	☐	☐	☐
3. Closure document kept on file by owner.	☒	☐	☐	☐	☐	☐

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. This registration is conditioned upon compliance with provisions of the Storage Tank and Spill Prevention Act of 1989, all applicable regulations, and with the requirements for obtaining and maintaining a permit required under this Act. I certify my responsibility for assuring the following permit requirements:

- Storage tank systems are in compliance with applicable administrative, technical and operational requirements as specified in Subchapter E for underground tanks or Subchapter F or G for aboveground tanks.
- Tank handling and inspection activities are performed by an individual possessing DEP certification in the appropriate category as required in Subchapters A and B.
- Underground storage tanks meet the applicable financial responsibility requirements of Subchapter H (relating to financial responsibility requirements).
- A Spill Prevention Response (SPR) Plan must be submitted to the appropriate DEP regional office for facilities that have aboveground storage tanks where the total capacity of all aboveground tanks is greater than 21,000 gallons.
- Other state and local permits required for operation of the tank system have been attained.

My signature represents to the Department that I own the storage tank(s) and am aware of the responsibilities and potential liabilities as an "owner" arising under the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I am also advised that statements made on this registration is made subject to the penalties of 18 PA. C.S.A. Section 4904 relating to unsworn falsification to authorities.

Type or Print Owner Name Gary Bowman

Owner Signature	Title	Date
	President	12/16/2021

Information & Invoices should be sent to:

- ☒ Tank Owner Contact
- ☒ Site Contact
- ☒ Facility Operator
- ☐ Other Responsible Party Identified Below

Organization Name or Registered Fictitious Name		Employer ID# (EIN)		Dun & Bradstreet ID#
NorthStar Contracting Group, Inc.				
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Bowman	Gary	P.	Sr.	
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Mailing Address Line 1	**Mailing Address Line 2**			
2250 East Adams Avenue				
Address Last Line – City		**State**	**ZIP+4**	**Country**
Philadelphia		PA	19124	USA
Contact Title			**Phone**	**Ext.**
President			610-636-4574	
E-mail Address				
Gbowman@northstar.com				
Client to Site (Facility) Relationship				

X. INSTALLER / REMOVER CERTIFICATION

This section must be completed by the certified tank handler(s) who is responsible for the installation or removal from service of the aboveground and underground storage tank systems listed in Section VI. Tank modification activity must be submitted on a "Tank Modification Report" form.

SIGNATURE & CERTIFICATION OF INSTALLER(S) / REMOVER(S)

As the certified tank handler responsible for the tank handling activities in the category or categories listed, I certify that all tank handling activities were conducted in compliance with the design, installation and operation standards of the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I also certify, under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided therein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Installer/Remover Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Installer/Remover Signature	Date
047A	Kristian Satterthwaite	API 650	5081	AFR	1557	Kristian Satterthwaite	12/7/2021

XI. INSPECTOR CERTIFICATION

This section must be completed by the DEP Certified Tank Inspector(s) who is responsible for verifying the installation standards for field constructed tanks and aboveground tanks greater than 21,000 gallons listed in Section VI. (Type or Print legibly) A DEP Certified Inspector may also be responsible for inspecting existing ASTs which are entering regulated service for the first time with no tank handling activities.

SIGNATURE & CERTIFICATION OF INSPECTOR(S)

As the certified tank inspector responsible for verifying tank handling activities and construction standards, I certify that the tank(s) listed below are constructed to appropriate industry standards and, if applicable, to manufacturer's specifications; that the tank(s) have been tested as required by industry standards; and that the tank(s) meet or exceed applicable design and operating standards; and are in compliance with the requirements of the Storage Tank and Spill Prevention Act of 1989, and all applicable regulations. I also certify under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided herein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Inspector Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Inspector Signature	Date

XII. SITE SPECIFIC INSTALLATION PERMIT NUMBER

If a site-specific permit was required for a new tank installation, write the tank number(s) and permit number(s) in the appropriate box.

Site-Specific Installation Permit	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#

JD2 Environmental Inc.
800 East Washington Street • West Chester, PA 19380 • 610.430.8151 • 610.430.8016 Fax • www.jd2env.com

December 14, 2021

VIA EMAIL (ELECTRONIC SUBMISSION)

Pennsylvania Department of Environmental Protection
Central Office - Division of Storage Tanks
Rachel Carson State Office Building
400 Market Street
Harrisburg, Pennsylvania 17101

Subject: **Philadelphia Energy Solutions Refining and Marketing, LLC (PES)**
PADEP Storage Tanks Registration/Permitting Application Form
PADEP Facility ID #51-33624 - Girard Point Refinery

Dear PADEP:

On behalf of our client, JD2 Environmental, Inc. (JD2) is attaching the Pennsylvania Department of Environmental Protection's (PADEP's) Storage Tanks Registration/Permitting Application Form for the removal of the following aboveground storage tank (AST):

Facility Name	PADEP Facility ID #	PADEP Tank ID #	Owner Tank ID #	AMS Tank ID #	Removal Date
Girard Point Refinery	51-33624	015A	GP 225	P-146	11/15/2021

If you have any questions regarding this submittal, please do not hesitate to contact me at (610) 430-8151.

Sincerely yours,

JD2 ENVIRONMENTAL, INC.

Kristian Satterthwaite

Kristian Satterthwaite
Environmental Scientist
PADEP Inspector #5081

KS:wc
Attachment

cc: REPSG

2630-PM-BECB0514 Rev. 6/2019
Form

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS

STORAGE TANKS REGISTRATION / PERMITTING APPLICATION FORM

Before completing this form, read the step-by-step instructions provided in this application package.

	DEP USE ONLY
51-33624 Facility ID #	Client ID#
	Site ID#
	Account #
	Auth ID#
Phila Ref Girard Point Facility Name	APS ID#
	Master Auth ID#

I. PURPOSE OF SUBMITTAL

INITIAL (Applies to First-Time Facility Registration)

- ☐ Register Tanks(s) to be Used*
- ☐ Register Tank(s) to be Removed
- ☐ Register Tank(s) to be Temporarily Out of Use
- ☐ Register Tank(s) to be Closed in Place

AMENDED (Applies to Currently Registered Tank(s) or Existing Facility)

- ☐ Changed Owner Information
- ☐ Changed Facility Information
- ☐ Changed to Currently In Use Tank(s)*
- ☐ Changed to Temporarily Out of Use Tank(s)
- ☐ Changed Product
- ☐ Changed Contact Information
- ☐ Changed Facility Operator Information
- ☐ Added Tank(s) to Existing Facility*
- ☒ Changed to Permanently Closed Tank(s)/Removed
- ☐ Changed to Exempt Tank(s)

CHANGE OF OWNERSHIP

- ☐ Tanks Changed Ownership and Remain at Same Facility*

* **For Underground Storage Tanks (UST), attach the UST Operator Training Documentation Form (2630-PM-BECB0514a) and copies of the Class A and Class B operator training certificates.**

II. CURRENT OR NEW TANK OWNER / CLIENT INFORMATION

DEP Client ID#	Client Type/Code	Fee Kind (check one if applicable)		
298341		☐ Volunteer Fire Co/EMS Org	☐ State Govt	☐ Fed Govt

Organization Name or Registered Fictitious Name		Employer ID# (EIN)		Dun & Bradstreet ID#
Philadelphia Energy Solutions Refining and Marketing, LLC				
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Bowman	Gary	P.	Sr.	
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**

Mailing Address Line 1	Mailing Address Line 2		
3144 West Passyunk Avenue			
Address Last Line – City	**State**	**ZIP+4**	**Country**
Philadelphia	PA	19145	USA
Client Contact Last Name	**First Name**	**MI**	**Suffix**
Bowman	Gary	P.	Sr.
Client Contact Title		**Phone**	**Ext**
President		610-636-4574	
E-mail Address			**FAX**
Gbowman@northstar.com			

III. SITE INFORMATION

DEP Site ID# | Site Name

EPA ID# | Estimated Number of Employees to be Present at Site

Description of Site

County Name | Municipality | City ☐ Boro ☐ Twp ☐ State

County Name | Municipality | City ☐ Boro ☐ Twp ☐ State

Site Location Line 1 | Site Location Line 2

Site Location Last Line – City | State | ZIP+4

Detailed Written Directions to Site

Site Contact Last Name | First Name | MI | Suffix

Site Contact Title | Site Contact Firm

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4

Phone | Ext | FAX | E-mail Address

NAICS Codes (Two- & Three-Digit Codes – List All That Apply) | 6-Digit Code (Optional)

Site to Client Relationship

IIIa. PROPERTY OWNER INFORMATION

☐ Same as Tank Owner Identified in Section II. ☐ Different than Tank Owner Identified in Section II; identified below.

Organization Name or Registered Fictitious Name | Employer ID# (EIN) | Dun & Bradstreet ID#

Individual Last Name | First Name | MI | Suffix | SSN

Additional Individual Last Name | First Name | MI | Suffix | SSN

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4 | Country

Property Owner Contact Last Name | First Name | MI | Suffix

Property Owner Contact Title | Phone | Ext

E-mail Address | FAX

IV. FACILITY INFORMATION

DEP Storage Tank Facility ID# | **Facility Name** | **Facility Kind**

Facility Location Line 1 (if different than Site Location) | **Facility Location Line 2**

Facility Location Last Line - City | **State** | **ZIP+4**

Latitude/Longitude Point of Origin	**Latitude**			**Longitude**		
	Degrees	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**

Horizontal Accuracy Measure Feet --or-- Meters

Horizontal Reference Datum Code
- ☐ North American Datum of 1927
- ☐ North American Datum of 1983
- ☐ World Geodetic System of 1984

Horizontal Collection Method Code

Reference Point Code

Altitude Feet --or-- Meters

Altitude Datum Name
- ☐ The National Geodetic Vertical Datum of 1929
- ☐ The North American Vertical Datum of 1988 (NAVD88)

Altitude (Vertical) Location Datum Collection Method Code

Geometric Type Code

Data Collection Date

Source Map Scale Number Inch(es) = Feet

--or-- Centimeter(s) = Meters

Flammable & Combustible Liquid Permit # (if applicable)

State or Municipality that Issued the Permit

FACILITY OPERATOR INFORMATION

☐ **Same as Owner Identified in Section II.** ☐ **Different than Owner Identified in Section II; identified below.**

DEP Client ID# | **Client Type / Code**

Organization Name or Registered Fictitious Name | **Employer ID# (EIN)** | **Dun & Bradstreet ID#**

Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Additional Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Mailing Address Line 1 | **Mailing Address Line 2**

Address Last Line – City | **State** | **ZIP+4** | **Country**

Client Contact Last Name | **First Name** | **MI** | **Suffix**

Client Contact Title | **Phone** | **Ext**

E-mail Address | **FAX**

V. CHANGE OF OWNERSHIP INFORMATION

☐ **All Tanks Changed Ownership at the Facility**

☐ **Some Tanks Changed Ownership at the Facility** (List all applicable tank numbers in Section VI.)

OWNERSHIP CHANGE TO - Client information is noted in Section II.

OWNERSHIP CHANGE FROM (previous owner information)

Name

Employer ID# (EIN) or SSN

Mailing Address Line 1

Mailing Address Line 2

Address Last Line - City **State** **ZIP+4**

Previous Facility ID#

DATE OF SALE/TRANSFER	

SIGNATURE & CERTIFICATION OF PREVIOUS OWNER

Previous owner's signature is not available. As required, the "new" owner has attached a deed of transfer or other proof of ownership to this application. ☐ **Yes** ☐ **No** ☐ **N/A**

I have reviewed this form for submission to the Department. I certify under penalty of law as provided in 18 PA. C.S.A. §4903 (relating to false swearing) and 18 PA. C.S.A. §4904 (relating to unsworn falsification to authorities), that I have the authority to sign this Section for the transfer of permit or registration for the storage tanks listed herein. Further, I certify that all information provided in Section V is true, accurate and complete to the best of my knowledge and belief.

Type or Print Previous Owner Name

Previous Owner Signature **Title** **Date**

Facility ID# 51-33624 Facility Name Phila Ref Girard Point

VI. STORAGE DESCRIPTION

Type or print legibly each regulated storage tank at this facility under your ownership.
Status Codes: C-Currently in Use T-Temporarily Out of Use E-Exempt R-Removed P-Closed In Place
Type Codes: M-Manufactured F-Field Constructed

A. ABOVEGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code
015A	T	R	F	01/01/1973	11/15/2021	3,360,000		Light Cycle Oil		
A										
A										
A										
A										
A										
A										
A										
A										
A										

B. UNDERGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code

Facility ID# 51-33624 Facility Name Phila Ref Girard Point

VII. ABOVEGROUND & UNDERGROUND NEW TANK INSTALLATION INFORMATION

The DEP Certified Installer should complete this section. New tanks listed in Section VI must also be listed in this Section. Write the Tank Number(s) and place an ☒ in the appropriate box for each component that was installed.

Tank Construction & Corrosion Protection (1)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Tank Manufacturer:						
Model:						
A. Unprotected Steel (Single Wall)	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Steel (Galvanic)	☐	☐	☐	☐	☐	☐
C. Cathodically Protected Steel (Impressed Current)	☐	☐	☐	☐	☐	☐
D. Unprotected Steel (Double Wall)	☐	☐	☐	☐	☐	☐
E. Fiberglass (Single Wall)	☐	☐	☐	☐	☐	☐
F. Fiberglass (Double Wall)	☐	☐	☐	☐	☐	☐
G. Steel w/Plastic or Fiberglass Jacket or Double Wall Act 100	☐	☐	☐	☐	☐	☐
H. Steel With FRP Coating (Act 100 or Equivalent)	☐	☐	☐	☐	☐	☐
I. Steel with Lined Interior	☐	☐	☐	☐	☐	☐
J. Concrete	☐	☐	☐	☐	☐	☐
O. Cathodically Protected Double Wall Steel (Galvanic)	☐	☐	☐	☐	☐	☐
P. Cathodically Protected Steel with Liner	☐	☐	☐	☐	☐	☐
Q. Double Bottom (ASTs Only)	☐	☐	☐	☐	☐	☐
R. Molded Plastic Form (ASTs Only)	☐	☐	☐	☐	☐	☐
S. Stainless Steel	☐	☐	☐	☐	☐	☐
T. Aluminum	☐	☐	☐	☐	☐	☐
U. Fire Protected Double Wall AST	☐	☐	☐	☐	☐	☐
V. Steel with Plastic or Fiberglass Jacket or Double Wall Act 100 with Anodes	☐	☐	☐	☐	☐	☐
W. Steel with FRP Coating (Act 100 or Equivalent) with Anodes	☐	☐	☐	☐	☐	☐
X. Molded Plastic Form (Double Wall) (AST's Only)	☐	☐	☐	☐	☐	☐

Facility ID# 51-33624 Facility Name Phila Ref Girard Point

Underground Piping Construction & Corrosion Protection – Single/Inner Wall (28)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Primary (Inner) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Underground Piping Construction & Corrosion Protection – Outer Wall (29)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Secondary (Outer) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
L. Poly-encased Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Facility ID# 51-33624 Facility Name Phila Ref Girard Point

Aboveground Piping Construction & Corrosion Protection (3)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Carbon Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Single Wall Fiberglass	☐	☐	☐	☐	☐	☐
E. Single Wall Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
F. PVC	☐	☐	☐	☐	☐	☐
G. None	☐	☐	☐	☐	☐	☐
I. Double Wall - Metallic Primary	☐	☐	☐	☐	☐	☐
J. Double Wall - Rigid (FRP) Primary	☐	☐	☐	☐	☐	☐
K. Double Wall - Flexible Primary	☐	☐	☐	☐	☐	☐
L. Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Product Delivery System (4)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Suction: Check valve at pump	☐	☐	☐	☐	☐	☐
B. Suction: Check valve at tank	☐	☐	☐	☐	☐	☐
C. Pressure	☐	☐	☐	☐	☐	☐
D. Gravity fed	☐	☐	☐	☐	☐	☐
E. None	☐	☐	☐	☐	☐	☐

Spill Prevention (6)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
S. Permanently installed and liquid tight (single-walled)	☐	☐	☐	☐	☐	☐
D. Permanently installed and liquid tight (double-walled)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐

Facility ID# 51-33624 Facility Name Phila Ref Girard Point

Overfill Prevention (7)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Overfill alarm	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
S. Drop tube shutoff device	☐	☐	☐	☐	☐	☐
Y. Yes (AST only) Type: _____	☐	☐	☐	☐	☐	☐

Emergency Containment (16) ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes (includes double-walled tanks with required appurtenances)	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Secondary Containment (17) Single Wall ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Stage I Vapor Recovery (19) USTs and ASTs when applicable	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Coaxial	☐	☐	☐	☐	☐	☐
B. 2 Point	☐	☐	☐	☐	☐	☐
N. None or incomplete	☐	☐	☐	☐	☐	☐

Facility ID# 51-33624 Facility Name Phila Ref Girard Point

Tank-top Containment Sumps Present (Product Piping Only) (21) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some penetrations and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. At all penetrations and liquid tight	☐	☐	☐	☐	☐	☐

Under-dispenser Containment Present (22) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some dispensers and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. Under all dispensers and liquid tight	☐	☐	☐	☐	☐	☐

Line Leak Detector Shuts Off Pump (23) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Tank Supplies Emergency Generator (25)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Facility ID# 51-33624 Facility Name Phila Ref Girard Point

VIII. ABOVEGROUND & UNDERGROUND TANK INFORMATION FOR PERMANENT CLOSURE

Write the Tank Number(s) and place an ☒ in the appropriate box for each tank that was removed or closed in place.

Items 2 & 3 below apply to large ASTs and all USTs	Tank # 015A	Tank #	Tank #	Tank #	Tank #	Tank #
1. Contamination suspected or observed and notification of contamination form was submitted to the appropriate DEP regional office.	☐	☐	☐	☐	☐	☐
2. Closure document submitted to the appropriate DEP regional office.	☒	☐	☐	☐	☐	☐
3. Closure document kept on file by owner.	☒	☐	☐	☐	☐	☐

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. This registration is conditioned upon compliance with provisions of the Storage Tank and Spill Prevention Act of 1989, all applicable regulations, and with the requirements for obtaining and maintaining a permit required under this Act. I certify my responsibility for assuring the following permit requirements:

- Storage tank systems are in compliance with applicable administrative, technical and operational requirements as specified in Subchapter E for underground tanks or Subchapter F or G for aboveground tanks.
- Tank handling and inspection activities are performed by an individual possessing DEP certification in the appropriate category as required in Subchapters A and B.
- Underground storage tanks meet the applicable financial responsibility requirements of Subchapter H (relating to financial responsibility requirements).
- A Spill Prevention Response (SPR) Plan must be submitted to the appropriate DEP regional office for facilities that have aboveground storage tanks where the total capacity of all aboveground tanks is greater than 21,000 gallons.
- Other state and local permits required for operation of the tank system have been attained.

My signature represents to the Department that I own the storage tank(s) and am aware of the responsibilities and potential liabilities as an "owner" arising under the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I am also advised that statements made on this registration is made subject to the penalties of 18 PA. C.S.A. Section 4904 relating to unsworn falsification to authorities.

Type or Print Owner Name Gary Bowman

Owner Signature	Title	Date
	President	12/16/2021

Information & Invoices should be sent to:

- ☒ Tank Owner Contact
- ☒ Site Contact
- ☒ Facility Operator
- ☐ Other Responsible Party Identified Below

Organization Name or Registered Fictitious Name		Employer ID# (EIN)		Dun & Bradstreet ID#
NorthStar Contracting Group, Inc.				
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Bowman	Gary	P.	Sr.	
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**

Mailing Address Line 1	Mailing Address Line 2			
2250 East Adams Avenue				
Address Last Line – City		**State**	**ZIP+4**	**Country**
Philadelphia		PA	19124	USA
Contact Title			**Phone**	**Ext.**
President			610-636-4574	
E-mail Address				
Gbowman@northstar.com				
Client to Site (Facility) Relationship				

X. INSTALLER / REMOVER CERTIFICATION

This section must be completed by the certified tank handler(s) who is responsible for the installation or removal from service of the aboveground and underground storage tank systems listed in Section VI. Tank modification activity must be submitted on a "Tank Modification Report" form.

SIGNATURE & CERTIFICATION OF INSTALLER(S) / REMOVER(S)

As the certified tank handler responsible for the tank handling activities in the category or categories listed, I certify that all tank handling activities were conducted in compliance with the design, installation and operation standards of the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I also certify, under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided therein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Installer/Remover Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Installer/Remover Signature	Date
015A	Kristian Satterthwaite		5081	AFR	1557	Kristian Satterthwaite	11/15/22

XI. INSPECTOR CERTIFICATION

This section must be completed by the DEP Certified Tank Inspector(s) who is responsible for verifying the installation standards for field constructed tanks and aboveground tanks greater than 21,000 gallons listed in Section VI. (Type or Print legibly) A DEP Certified Inspector may also be responsible for inspecting existing ASTs which are entering regulated service for the first time with no tank handling activities.

SIGNATURE & CERTIFICATION OF INSPECTOR(S)

As the certified tank inspector responsible for verifying tank handling activities and construction standards, I certify that the tank(s) listed below are constructed to appropriate industry standards and, if applicable, to manufacturer's specifications; that the tank(s) have been tested as required by industry standards; and that the tank(s) meet or exceed applicable design and operating standards; and are in compliance with the requirements of the Storage Tank and Spill Prevention Act of 1989, and all applicable regulations. I also certify under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided herein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Inspector Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Inspector Signature	Date

XII. SITE SPECIFIC INSTALLATION PERMIT NUMBER

If a site-specific permit was required for a new tank installation, write the tank number(s) and permit number(s) in the appropriate box.

Site-Specific Installation Permit	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#

JD2 Environmental Inc.
800 East Washington Street • West Chester, PA 19380 • 610.430.8151 • 610.430.8016 Fax • www.jd2env.com

November 23, 2021

VIA EMAIL (ELECTRONIC SUBMISSION)

Pennsylvania Department of Environmental Protection
Central Office - Division of Storage Tanks
Rachel Carson State Office Building
400 Market Street
Harrisburg, Pennsylvania 17101

Subject: **Philadelphia Energy Solutions Refining and Marketing, LLC (PES)**
PADEP Storage Tank Registration Amendment Form - Change to "T" Status
PADEP Facility ID #51-33624 - Girard Point Refinery

Dear PADEP:

On behalf of our client, JD2 Environmental, Inc. (JD2) is enclosing the Pennsylvania Department of Environmental Protection's (PADEP's) Storage Tank Registration Amendment Form to change the status to 'Temporarily Out-of-Use' for the following aboveground storage tank (AST):

Facility Name	PADEP Facility ID #	PADEP Tank ID #	Owner Tank ID #	AMS Tank ID #	TOOU Date
Girard Point Refinery	51-33624	066A	GP 973	N/A	11/15/2021

The tank was taken out of service in accordance with the applicable parts of 25 PA Code Sections 245.562 and 245.617, which included completely emptying the contents from the tank, visual examination of the area surrounding the tank, securing the tank against unauthorized entry and all piping entering or exiting the tank were capped or blinded. As allowed under 25 PA Code Section 245.562(e), In-Service and Out-of-Service inspection intervals will be delayed for the above tank. The delayed inspections shall be conducted prior to placing regulated substance in the tank and return the tank to operating status.

If you have any questions regarding this submittal, please do not hesitate to contact me at (610) 430-8151.

Sincerely yours,
JD2 ENVIRONMENTAL, INC.

Kristian Satterthwaite
Environmental Scientist
PADEP Inspector #5081

KS:wc
Attachment

cc: REPSG

2630-FM-BECB0607 Rev. 8/2012
Form

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS

STORAGE TANK REGISTRATION AMENDMENT FORM

Before completing this form, read the instructions provided for this form.

I. FACILITY AND CLIENT INFORMATION

Facility ID# 51-33624 **Facility Name** Phila Ref Girard Point

County Philadelphia **Municipality** Philadelphia

Client's Name or Registered Fictitious Name: Philadelphia Energy Solutions Refining and Marketing, LLC

Client ID#: 298341

II. PURPOSE OF SUBMITTAL

☐ Change to **C status**, Currently In Use Tank(s) *
** For Underground Storage Tanks (UST), attach the UST Operator Training Documentation Form (2630-PM-BECB0514a) and copies of the Class A and Class B operator training certificates.*

☒ Change to **T status**, Temporarily Out of Use Tank(s)

☐ Change to **E status**, Tank(s) registered in error **only**

☐ Change Capacity

☐ Change Substance

☐ Change Contact Information

III. TANK INFORMATION

Tank #	Change Date (Mo/Day/Yr)	Status	Capacity (Gallons)	Substance Name	CAS# Component %
066A	11/15/2021	T	50,000	Fresh Caustic	

IV. CONTACT INFORMATION

FOR: ☐ Facility Owner ☐ Responsible Official ☒ Facility Operator ☐ Property Owner

Is person below to receive the invoice and registration certificate? ☐ **YES** ☐ **NO**

Last Name: Bowman First Name: Gary MI: P Suffix: Sr.

Phone #: (610) 636-4574 E-mail: Gbowman@northstar.com

Company Name: NorthStar Contracting Group, Inc.

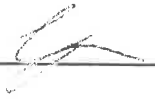
Mailing Address: 2250 East Adams Avenue

City: Philadelphia State: PA ZIP: 19124

V. OWNER SIGNATURE

My signature represents to the Department that I own or represent the owner of the storage tank(s) and am aware of the responsibilities and potential liabilities as an "owner" arising under the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I am also advised that statements made on this form are made subject to the penalties of 18 PA. C.S.A. Section 4904 relating to unsworn falsification to authorities.

Type or Print Owner Name: Gary Bowman



Owner Signature

(610) 636-4574
Phone

12/16/2021
Date

☐ Facility Owner ☐ Owner's Representative ☒ Facility Operator ☐ Property Owner

2630-FM-BECB0607 Rev. 8/2012
Form

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS

STORAGE TANK REGISTRATION AMENDMENT FORM

Before completing this form, read the instructions provided for this form.

I. FACILITY AND CLIENT INFORMATION

Facility ID# 51-33624 **Facility Name** Phila Ref Girard Point

County Philadelphia **Municipality** Philadelphia

Client's Name or Registered Fictitious Name **Client ID#**

Philadelphia Energy Solutions Refining and Marketing, LLC 298341

II. PURPOSE OF SUBMITTAL

☐ Change to **C status**, Currently In Use Tank(s) *

** For Underground Storage Tanks (UST), attach the UST Operator Training Documentation Form (2630-PM-BECB0514a) and copies of the Class A and Class B operator training certificates.*

☒ Change to **T status**, Temporarily Out of Use Tank(s)

☐ Change to **E status**, Tank(s) registered in error **only**

☐ Change Capacity

☐ Change Substance

☐ Change Contact Information

III. TANK INFORMATION

Tank #	Change Date (Mo/Day/Yr)	Status	Capacity (Gallons)	Substance Name	CAS# Component %
066A	11/15/2021	T	50,000	Fresh Caustic	

IV. CONTACT INFORMATION

FOR: ☐ Facility Owner ☐ Responsible Official ☒ Facility Operator ☐ Property Owner

Is person below to receive the invoice and registration certificate? ☐ **YES** ☐ **NO**

Last Name: Bowman First Name: Gary MI: P Suffix: Sr.

Phone #: (610) 636-4574 E-mail: Gbowman@northstar.com

Company Name: NorthStar Contracting Group, Inc.

Mailing Address: 2250 East Adams Avenue

City: Philadelphia State: PA ZIP: 19124

V. OWNER SIGNATURE

My signature represents to the Department that I own or represent the owner of the storage tank(s) and am aware of the responsibilities and potential liabilities as an "owner" arising under the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I am also advised that statements made on this form are made subject to the penalties of 18 PA. C.S.A. Section 4904 relating to unsworn falsification to authorities.

Type or Print Owner Name: Gary Bowman

Owner Signature

(610) 636-4574
Phone

12/16/2021
Date

☐ Facility Owner ☐ Owner's Representative ☒ Facility Operator ☐ Property Owner

JD2 Environmental Inc.
800 East Washington Street • West Chester, PA 19380 • 610.430.8151 • 610.430.8016 Fax • www.jd2env.com

September 28, 2021

VIA EMAIL (ELECTRONIC SUBMISSION)

Pennsylvania Department of Environmental Protection
Central Office - Division of Storage Tanks
Rachel Carson State Office Building
400 Market Street
Harrisburg, Pennsylvania 17101

Subject: **Philadelphia Energy Solutions Refining and Marketing, LLC (PES)**
PADEP Storage Tanks Registration/Permitting Application Form
PADEP Facility ID #51-33620 - Point Breeze Refinery

Dear PADEP:

On behalf of our client, JD2 Environmental, Inc. (JD2) is attaching the Pennsylvania Department of Environmental Protection's (PADEP's) Storage Tanks Registration/Permitting Application Form for the removal of the following aboveground storage tank (AST):

Facility Name	PADEP Facility ID #	PADEP Tank ID #	Owner Tank ID #	AMS Tank ID #	Removal Date
Point Breeze Refinery	51-33620	012A	PB 886	P-604	8/26/2021

Tank #012A was a 13,158,600-gallon AST formerly storing Crude Oil.

If you have any questions regarding this submittal, please do not hesitate to contact me at (610) 430-8151.

Sincerely yours,

JD2 ENVIRONMENTAL, INC.

Kristian Satterthwaite
Environmental Scientist
PADEP Inspector #5081

KS:wc
Attachment

cc: REPSG

2630-PM-BECB0514 Rev. 6/2019
Form

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS

STORAGE TANKS REGISTRATION / PERMITTING APPLICATION FORM

Before completing this form, read the step-by-step instructions provided in this application package.

	DEP USE ONLY
	Client ID#
51-33620 Facility ID #	Site ID#
	Account #
	Auth ID#
Phila Ref Point Breeze Facility Name	APS ID#
	Master Auth ID#

I. PURPOSE OF SUBMITTAL

INITIAL (Applies to First-Time Facility Registration)

- ☐ Register Tanks(s) to be Used*
- ☐ Register Tank(s) to be Removed
- ☐ Register Tank(s) to be Temporarily Out of Use
- ☐ Register Tank(s) to be Closed in Place

AMENDED (Applies to Currently Registered Tank(s) or Existing Facility)

- ☐ Changed Owner Information
- ☐ Changed Facility Information
- ☐ Changed to Currently In Use Tank(s)*
- ☐ Changed to Temporarily Out of Use Tank(s)
- ☐ Changed Product
- ☐ Changed Contact Information
- ☐ Changed Facility Operator Information
- ☐ Added Tank(s) to Existing Facility*
- ☒ Changed to Permanently Closed Tank(s)/Removed
- ☐ Changed to Exempt Tank(s)

CHANGE OF OWNERSHIP

- ☐ Tanks Changed Ownership and Remain at Same Facility*

* **For Underground Storage Tanks (UST), attach the UST Operator Training Documentation Form (2630-PM-BECB0514a) and copies of the Class A and Class B operator training certificates.**

II. CURRENT OR NEW TANK OWNER / CLIENT INFORMATION

DEP Client ID#	Client Type/Code	Fee Kind (check one if applicable)
298341		☐ Volunteer Fire Co/EMS Org ☐ State Govt ☐ Fed Govt

Organization Name or Registered Fictitious Name	Employer ID# (EIN)	Dun & Bradstreet ID#
Philadelphia Energy Solutions Refining and Marketing, LLC		

Individual Last Name	First Name	MI	Suffix	SSN
Bowman	Gary	P.	Sr.	

Additional Individual Last Name	First Name	MI	Suffix	SSN

Mailing Address Line 1	Mailing Address Line 2
3144 West Passyunk Avenue	

Address Last Line – City	State	ZIP+4	Country
Philadelphia	PA	19145	USA

Client Contact Last Name	First Name	MI	Suffix
Bowman	Gary	P.	Sr.

Client Contact Title	Phone	Ext
President	610-636-4574	

E-mail Address	FAX
Gbowman@northstar.com	

III. SITE INFORMATION

DEP Site ID# | Site Name

EPA ID# | Estimated Number of Employees to be Present at Site

Description of Site

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

Site Location Line 1 | Site Location Line 2

Site Location Last Line – City | State | ZIP+4

Detailed Written Directions to Site

Site Contact Last Name | First Name | MI | Suffix

Site Contact Title | Site Contact Firm

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4

Phone | Ext | FAX | E-mail Address

NAICS Codes (Two- & Three-Digit Codes – List All That Apply) | 6-Digit Code (Optional)

Site to Client Relationship

IIIa. PROPERTY OWNER INFORMATION

☐ Same as Tank Owner Identified in Section II. ☐ Different than Tank Owner Identified in Section II; identified below.

Organization Name or Registered Fictitious Name | Employer ID# (EIN) | Dun & Bradstreet ID#

Individual Last Name | First Name | MI | Suffix | SSN

Additional Individual Last Name | First Name | MI | Suffix | SSN

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4 | Country

Property Owner Contact Last Name | First Name | MI | Suffix

Property Owner Contact Title | Phone | Ext

E-mail Address | FAX

IV. FACILITY INFORMATION

DEP Storage Tank Facility ID# | **Facility Name** | **Facility Kind**

Facility Location Line 1 (if different than Site Location) | **Facility Location Line 2**

Facility Location Last Line - City | **State** | **ZIP+4**

Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**

Horizontal Accuracy Measure Feet *--or--* Meters

Horizontal Reference Datum Code
- ☐ North American Datum of 1927
- ☐ North American Datum of 1983
- ☐ World Geodetic System of 1984

Horizontal Collection Method Code

Reference Point Code

Altitude Feet *--or--* Meters

Altitude Datum Name
- ☐ The National Geodetic Vertical Datum of 1929
- ☐ The North American Vertical Datum of 1988 (NAVD88)

Altitude (Vertical) Location Datum Collection Method Code

Geometric Type Code

Data Collection Date

Source Map Scale Number Inch(es) = Feet

--or-- Centimeter(s) = Meters

Flammable & Combustible Liquid Permit # (if applicable)

State or Municipality that Issued the Permit

FACILITY OPERATOR INFORMATION

☐ **Same as Owner Identified in Section II.** ☐ **Different than Owner Identified in Section II; identified below.**

DEP Client ID# | **Client Type / Code**

Organization Name or Registered Fictitious Name | **Employer ID# (EIN)** | **Dun & Bradstreet ID#**

Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Additional Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Mailing Address Line 1 | **Mailing Address Line 2**

Address Last Line – City | **State** | **ZIP+4** | **Country**

Client Contact Last Name | **First Name** | **MI** | **Suffix**

Client Contact Title | **Phone** | **Ext**

E-mail Address | **FAX**

V. CHANGE OF OWNERSHIP INFORMATION

☐ **All Tanks Changed Ownership at the Facility**

☐ **Some Tanks Changed Ownership at the Facility** (List all applicable tank numbers in Section VI.)

OWNERSHIP CHANGE TO - Client information is noted in Section II.

OWNERSHIP CHANGE FROM (previous owner information)

Name			
Employer ID# (EIN) or SSN			
Mailing Address Line 1			
Mailing Address Line 2			
Address Last Line - City		**State**	**ZIP+4**
Previous Facility ID#			

DATE OF SALE/TRANSFER	

SIGNATURE & CERTIFICATION OF PREVIOUS OWNER

Previous owner's signature is not available. As required, the "new" owner has attached a deed of transfer or other proof of ownership to this application. ☐ **Yes** ☐ **No** ☐ **N/A**

I have reviewed this form for submission to the Department. I certify under penalty of law as provided in 18 PA. C.S.A. §4903 (relating to false swearing) and 18 PA. C.S.A. §4904 (relating to unsworn falsification to authorities), that I have the authority to sign this Section for the transfer of permit or registration for the storage tanks listed herein. Further, I certify that all information provided in Section V is true, accurate and complete to the best of my knowledge and belief.

Type or Print Previous Owner Name

Previous Owner Signature	**Title**	**Date**

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VI. STORAGE DESCRIPTION

Type or print legibly each regulated storage tank at this facility under your ownership.
Status Codes: C-Currently in Use T-Temporarily Out of Use E-Exempt R-Removed P-Closed In Place
Type Codes: M-Manufactured F-Field Constructed

A. ABOVEGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code
012A	T	R	F	01/01/1974	08/26/2021	13,158,600		Crude Oil		
A										
A										
A										
A										
A										
A										
A										
A										
A										

B. UNDERGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VII. ABOVEGROUND & UNDERGROUND NEW TANK INSTALLATION INFORMATION

The DEP Certified Installer should complete this section. New tanks listed in Section VI must also be listed in this Section. Write the Tank Number(s) and place an ☒ in the appropriate box for each component that was installed.

Tank Construction & Corrosion Protection (1)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Tank Manufacturer:						
Model:						
A. Unprotected Steel (Single Wall)	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Steel (Galvanic)	☐	☐	☐	☐	☐	☐
C. Cathodically Protected Steel (Impressed Current)	☐	☐	☐	☐	☐	☐
D. Unprotected Steel (Double Wall)	☐	☐	☐	☐	☐	☐
E. Fiberglass (Single Wall)	☐	☐	☐	☐	☐	☐
F. Fiberglass (Double Wall)	☐	☐	☐	☐	☐	☐
G. Steel w/Plastic or Fiberglass Jacket or Double Wall Act 100	☐	☐	☐	☐	☐	☐
H. Steel With FRP Coating (Act 100 or Equivalent)	☐	☐	☐	☐	☐	☐
I. Steel with Lined Interior	☐	☐	☐	☐	☐	☐
J. Concrete	☐	☐	☐	☐	☐	☐
O. Cathodically Protected Double Wall Steel (Galvanic)	☐	☐	☐	☐	☐	☐
P. Cathodically Protected Steel with Liner	☐	☐	☐	☐	☐	☐
Q. Double Bottom (ASTs Only)	☐	☐	☐	☐	☐	☐
R. Molded Plastic Form (ASTs Only)	☐	☐	☐	☐	☐	☐
S. Stainless Steel	☐	☐	☐	☐	☐	☐
T. Aluminum	☐	☐	☐	☐	☐	☐
U. Fire Protected Double Wall AST	☐	☐	☐	☐	☐	☐
V. Steel with Plastic or Fiberglass Jacket or Double Wall Act 100 with Anodes	☐	☐	☐	☐	☐	☐
W. Steel with FRP Coating (Act 100 or Equivalent) with Anodes	☐	☐	☐	☐	☐	☐
X. Molded Plastic Form (Double Wall) (AST's Only)	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Underground Piping Construction & Corrosion Protection – Single/Inner Wall (28)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Primary (Inner) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Underground Piping Construction & Corrosion Protection – Outer Wall (29)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Secondary (Outer) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
L. Poly-encased Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Aboveground Piping Construction & Corrosion Protection (3)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Carbon Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Single Wall Fiberglass	☐	☐	☐	☐	☐	☐
E. Single Wall Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
F. PVC	☐	☐	☐	☐	☐	☐
G. None	☐	☐	☐	☐	☐	☐
I. Double Wall - Metallic Primary	☐	☐	☐	☐	☐	☐
J. Double Wall - Rigid (FRP) Primary	☐	☐	☐	☐	☐	☐
K. Double Wall - Flexible Primary	☐	☐	☐	☐	☐	☐
L. Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Product Delivery System (4)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Suction: Check valve at pump	☐	☐	☐	☐	☐	☐
B. Suction: Check valve at tank	☐	☐	☐	☐	☐	☐
C. Pressure	☐	☐	☐	☐	☐	☐
D. Gravity fed	☐	☐	☐	☐	☐	☐
E. None	☐	☐	☐	☐	☐	☐

Spill Prevention (6)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
S. Permanently installed and liquid tight (single-walled)	☐	☐	☐	☐	☐	☐
D. Permanently installed and liquid tight (double-walled)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Overfill Prevention (7)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Overfill alarm	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
S. Drop tube shutoff device	☐	☐	☐	☐	☐	☐
Y. Yes (AST only) Type: _____	☐	☐	☐	☐	☐	☐

Emergency Containment (16) ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes (includes double-walled tanks with required appurtenances)	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Secondary Containment (17) Single Wall ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Stage I Vapor Recovery (19) USTs and ASTs when applicable	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Coaxial	☐	☐	☐	☐	☐	☐
B. 2 Point	☐	☐	☐	☐	☐	☐
N. None or incomplete	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Tank-top Containment Sumps Present (Product Piping Only) (21) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some penetrations and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. At all penetrations and liquid tight	☐	☐	☐	☐	☐	☐

Under-dispenser Containment Present (22) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some dispensers and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. Under all dispensers and liquid tight	☐	☐	☐	☐	☐	☐

Line Leak Detector Shuts Off Pump (23) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Tank Supplies Emergency Generator (25)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VIII. ABOVEGROUND & UNDERGROUND TANK INFORMATION FOR PERMANENT CLOSURE

Write the Tank Number(s) and place an ☒ in the appropriate box for each tank that was removed or closed in place.

Items 2 & 3 below apply to large ASTs and all USTs	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
	012A					
1. Contamination suspected or observed and notification of contamination form was submitted to the appropriate DEP regional office.	☐	☐	☐	☐	☐	☐
2. Closure document submitted to the appropriate DEP regional office.	☒	☐	☐	☐	☐	☐
3. Closure document kept on file by owner.	☒	☐	☐	☐	☐	☐

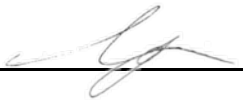
IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. This registration is conditioned upon compliance with provisions of the Storage Tank and Spill Prevention Act of 1989, all applicable regulations, and with the requirements for obtaining and maintaining a permit required under this Act. I certify my responsibility for assuring the following permit requirements:

- Storage tank systems are in compliance with applicable administrative, technical and operational requirements as specified in Subchapter E for underground tanks or Subchapter F or G for aboveground tanks.
- Tank handling and inspection activities are performed by an individual possessing DEP certification in the appropriate category as required in Subchapters A and B.
- Underground storage tanks meet the applicable financial responsibility requirements of Subchapter H (relating to financial responsibility requirements).
- A Spill Prevention Response (SPR) Plan must be submitted to the appropriate DEP regional office for facilities that have aboveground storage tanks where the total capacity of all aboveground tanks is greater than 21,000 gallons.
- Other state and local permits required for operation of the tank system have been attained.

My signature represents to the Department that I own the storage tank(s) and am aware of the responsibilities and potential liabilities as an "owner" arising under the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I am also advised that statements made on this registration is made subject to the penalties of 18 PA. C.S.A. Section 4904 relating to unsworn falsification to authorities.

Type or Print Owner Name Gary Bowman

Owner Signature	Title	Date
	President	9/23/2021

Information & Invoices should be sent to:

- ☒ **Tank Owner Contact**
- ☒ **Site Contact**
- ☒ **Facility Operator**
- ☐ **Other Responsible Party Identified Below**

Organization Name or Registered Fictitious Name		Employer ID# (EIN)		Dun & Bradstreet ID#
NorthStar Contracting Group, Inc.				
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Bowman	Gary	P.	Sr.	
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**

Mailing Address Line 1	Mailing Address Line 2			
2250 East Adams Avenue				
Address Last Line – City		**State**	**ZIP+4**	**Country**
Philadelphia		PA	19124	USA
Contact Title			**Phone**	**Ext.**
President			610-636-4574	
E-mail Address				
Gbowman@northstar.com				
Client to Site (Facility) Relationship				

X. INSTALLER / REMOVER CERTIFICATION

This section must be completed by the certified tank handler(s) who is responsible for the installation or removal from service of the aboveground and underground storage tank systems listed in Section VI. Tank modification activity must be submitted on a "Tank Modification Report" form.

SIGNATURE & CERTIFICATION OF INSTALLER(S) / REMOVER(S)

As the certified tank handler responsible for the tank handling activities in the category or categories listed, I certify that all tank handling activities were conducted in compliance with the design, installation and operation standards of the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I also certify, under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided therein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Installer/Remover Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Installer/Remover Signature	Date
012A	Kristian Satterthwaite	API 650	5081	AFR	1557	Kristian Satterthwaite	9/27/21

XI. INSPECTOR CERTIFICATION

This section must be completed by the DEP Certified Tank Inspector(s) who is responsible for verifying the installation standards for field constructed tanks and aboveground tanks greater than 21,000 gallons listed in Section VI. (Type or Print legibly) A DEP Certified Inspector may also be responsible for inspecting existing ASTs which are entering regulated service for the first time with no tank handling activities.

SIGNATURE & CERTIFICATION OF INSPECTOR(S)

As the certified tank inspector responsible for verifying tank handling activities and construction standards, I certify that the tank(s) listed below are constructed to appropriate industry standards and, if applicable, to manufacturer's specifications; that the tank(s) have been tested as required by industry standards; and that the tank(s) meet or exceed applicable design and operating standards; and are in compliance with the requirements of the Storage Tank and Spill Prevention Act of 1989, and all applicable regulations. I also certify under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided herein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Inspector Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Inspector Signature	Date

XII. SITE SPECIFIC INSTALLATION PERMIT NUMBER

If a site-specific permit was required for a new tank installation, write the tank number(s) and permit number(s) in the appropriate box.

Site-Specific Installation Permit	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#

NorthStar Contracting Group, Inc.

2250 E Adams Ave • Philadelphia, PA 19124
Office: 215.533.8890 • Fax: 215.533.8897
Website • www.NorthStar.com

April 27, 2022

Pennsylvania Department of Environmental Protection
Southeast Regional Office
Division of Storage Tanks
2 East Main Street
Norristown, Pennsylvania 19401
Via email: RA-serotanks@pa.gov, ra-tanks@pa.gov

Re: Philadelphia Energy Solutions Refining and Marketing, LLC (PES)
PADEP Storage Tanks Registration/Permitting Application Form
PADEP Facility ID # 51-33620 – Point Breeze Refinery

To whom it may concern:

Please find NorthStar Contracting Group, Inc.'s submittal of the Pennsylvania Department of Environmental Protection's (PADEP's) Storage Tank Registration/Permitting Application Form for the removal of the following one (1) aboveground storage tanks located at the Philadelphia Energy Solutions Refining and Marketing, LLC Point Breeze site.

Removed					
Facility Name	**PADEP Facility ID #**	**PADEP Tank ID #**	**Owner Tank ID #**	**AMS Tank ID #**	**Removal Date**
Point Breeze Refinery	51-33620	049A	PB-826	P-579	04/18/2022

If you have any questions, please do not hesitate to contact me at 440-228-1524.

Respectfully Submitted,

Robert Armstrong
Sr. Project Manager
NorthStar Contracting Group, Inc.
Enclosures: Storage Tank Registration/Permitting Application Form

cc:

Gary Bowman (NorthStar)
Dr. Kassahun Sellassie (AMS)
Thomas Barsley (AMS)
Charles Barksdale (Hilco)
Edward Wiener (AMS)
Mike Leonardo (Hilco)

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS

STORAGE TANKS REGISTRATION / PERMITTING APPLICATION FORM

Before completing this form, read the step-by-step instructions provided in this application package.

	DEP USE ONLY
	Client ID#
51-33620	Site ID#
Facility ID #	Account #
	Auth ID#
Phila Ref Point Breeze	APS ID#
Facility Name	Master Auth ID#

I. PURPOSE OF SUBMITTAL

INITIAL (Applies to First-Time Facility Registration)

- ☐ Register Tanks(s) to be Used*
- ☐ Register Tank(s) to be Removed
- ☐ Register Tank(s) to be Temporarily Out of Use
- ☐ Register Tank(s) to be Closed in Place

AMENDED (Applies to Currently Registered Tank(s) or Existing Facility)

- ☐ Changed Owner Information
- ☐ Changed Facility Information
- ☐ Changed to Currently In Use Tank(s)*
- ☐ Changed to Temporarily Out of Use Tank(s)
- ☐ Changed Product
- ☐ Changed Contact Information
- ☐ Changed Facility Operator Information
- ☐ Added Tank(s) to Existing Facility*
- ☒ Changed to Permanently Closed Tank(s)/Removed
- ☐ Changed to Exempt Tank(s)

CHANGE OF OWNERSHIP

- ☐ Tanks Changed Ownership and Remain at Same Facility*

*** For Underground Storage Tanks (UST), attach the UST Operator Training Documentation Form (2630-PM-BECB0514a) and copies of the Class A and Class B operator training certificates.**

II. CURRENT OR NEW TANK OWNER / CLIENT INFORMATION

DEP Client ID#	Client Type/Code	Fee Kind (check one if applicable)
298341		☐ Volunteer Fire Co/EMS Org ☐ State Govt ☐ Fed Govt

Organization Name or Registered Fictitious Name	Employer ID# (EIN)	Dun & Bradstreet ID#
Philadelphia Energy Solutions Refining and Marketing, LLC		

Individual Last Name	First Name	MI	Suffix	SSN
Bowman	Gary	P	Sr.	

Additional Individual Last Name	First Name	MI	Suffix	SSN

Mailing Address Line 1	Mailing Address Line 2
3144 West Passyunk Avenue	

Address Last Line – City	State	ZIP+4	Country
Philadelphia	PA	19145	USA

Client Contact Last Name	First Name	MI	Suffix
Bowman	Gary	P	Sr.

Client Contact Title	Phone	Ext
President	610-636-4574	

E-mail Address	FAX
gbowman@northstar.com	

III. SITE INFORMATION

DEP Site ID# | Site Name

EPA ID# | Estimated Number of Employees to be Present at Site

Description of Site

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

Site Location Line 1 | Site Location Line 2

Site Location Last Line – City | State | ZIP+4

Detailed Written Directions to Site

Site Contact Last Name | First Name | MI | Suffix

Site Contact Title | Site Contact Firm

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4

Phone | Ext | FAX | E-mail Address

NAICS Codes (Two- & Three-Digit Codes – List All That Apply) | 6-Digit Code (Optional)

Site to Client Relationship

IIIa. PROPERTY OWNER INFORMATION

☐ Same as Tank Owner Identified in Section II. ☐ Different than Tank Owner Identified in Section II; identified below.

Organization Name or Registered Fictitious Name | Employer ID# (EIN) | Dun & Bradstreet ID#

Individual Last Name | First Name | MI | Suffix | SSN

Additional Individual Last Name | First Name | MI | Suffix | SSN

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4 | Country

Property Owner Contact Last Name | First Name | MI | Suffix

Property Owner Contact Title | Phone | Ext

E-mail Address | FAX

IV. FACILITY INFORMATION

DEP Storage Tank Facility ID# | **Facility Name** | **Facility Kind**

Facility Location Line 1 (if different than Site Location) | **Facility Location Line 2**

Facility Location Last Line - City | **State** | **ZIP+4**

Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**

Horizontal Accuracy Measure Feet *--or--* Meters

Horizontal Reference Datum Code
- ☐ North American Datum of 1927
- ☐ North American Datum of 1983
- ☐ World Geodetic System of 1984

Horizontal Collection Method Code

Reference Point Code

Altitude Feet *--or--* Meters

Altitude Datum Name
- ☐ The National Geodetic Vertical Datum of 1929
- ☐ The North American Vertical Datum of 1988 (NAVD88)

Altitude (Vertical) Location Datum Collection Method Code

Geometric Type Code

Data Collection Date

Source Map Scale Number Inch(es) = Feet

--or-- Centimeter(s) = Meters

Flammable & Combustible Liquid Permit # (if applicable)

State or Municipality that Issued the Permit

FACILITY OPERATOR INFORMATION

☐ **Same as Owner Identified in Section II.** ☐ **Different than Owner Identified in Section II; identified below.**

DEP Client ID# | **Client Type / Code**

Organization Name or Registered Fictitious Name | **Employer ID# (EIN)** | **Dun & Bradstreet ID#**

Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Additional Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Mailing Address Line 1 | **Mailing Address Line 2**

Address Last Line – City | **State** | **ZIP+4** | **Country**

Client Contact Last Name | **First Name** | **MI** | **Suffix**

Client Contact Title | **Phone** | **Ext**

E-mail Address | **FAX**

V. CHANGE OF OWNERSHIP INFORMATION

☐ **All Tanks Changed Ownership at the Facility**

☐ **Some Tanks Changed Ownership at the Facility** (List all applicable tank numbers in Section VI.)

OWNERSHIP CHANGE TO - Client information is noted in Section II.

OWNERSHIP CHANGE FROM (previous owner information)

Name			
Employer ID# (EIN) or SSN			
Mailing Address Line 1			
Mailing Address Line 2			
Address Last Line - City		**State**	**ZIP+4**
Previous Facility ID#			

DATE OF SALE/TRANSFER	

SIGNATURE & CERTIFICATION OF PREVIOUS OWNER

Previous owner's signature is not available. As required, the "new" owner has attached a deed of transfer or other proof of ownership to this application. ☐ **Yes** ☐ **No** ☐ **N/A**

I have reviewed this form for submission to the Department. I certify under penalty of law as provided in 18 PA. C.S.A. §4903 (relating to false swearing) and 18 PA. C.S.A. §4904 (relating to unsworn falsification to authorities), that I have the authority to sign this Section for the transfer of permit or registration for the storage tanks listed herein. Further, I certify that all information provided in Section V is true, accurate and complete to the best of my knowledge and belief.

Type or Print Previous Owner Name

Previous Owner Signature	**Title**	**Date**

Facility ID# Facility Name

VI. STORAGE DESCRIPTION

Type or print legibly each regulated storage tank at this facility under your ownership.
Status Codes: C-Currently in Use T-Temporarily Out of Use E-Exempt R-Removed P-Closed In Place
Type Codes: M-Manufactured F-Field Constructed

A. ABOVEGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code
049A	C	R	F	1958	04/18/2022	8,568,000		Crude		

B. UNDERGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code

Facility ID# Facility Name

VII. ABOVEGROUND & UNDERGROUND NEW TANK INSTALLATION INFORMATION

The DEP Certified Installer should complete this section. New tanks listed in Section VI must also be listed in this Section. Write the Tank Number(s) and place an ☒ in the appropriate box for each component that was installed.

Tank Construction & Corrosion Protection (1)	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**
Tank Manufacturer:						
Model:						
A. Unprotected Steel (Single Wall)	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Steel (Galvanic)	☐	☐	☐	☐	☐	☐
C. Cathodically Protected Steel (Impressed Current)	☐	☐	☐	☐	☐	☐
D. Unprotected Steel (Double Wall)	☐	☐	☐	☐	☐	☐
E. Fiberglass (Single Wall)	☐	☐	☐	☐	☐	☐
F. Fiberglass (Double Wall)	☐	☐	☐	☐	☐	☐
G. Steel w/Plastic or Fiberglass Jacket or Double Wall Act 100	☐	☐	☐	☐	☐	☐
H. Steel With FRP Coating (Act 100 or Equivalent)	☐	☐	☐	☐	☐	☐
I. Steel with Lined Interior	☐	☐	☐	☐	☐	☐
J. Concrete	☐	☐	☐	☐	☐	☐
O. Cathodically Protected Double Wall Steel (Galvanic)	☐	☐	☐	☐	☐	☐
P. Cathodically Protected Steel with Liner	☐	☐	☐	☐	☐	☐
Q. Double Bottom (ASTs Only)	☐	☐	☐	☐	☐	☐
R. Molded Plastic Form (ASTs Only)	☐	☐	☐	☐	☐	☐
S. Stainless Steel	☐	☐	☐	☐	☐	☐
T. Aluminum	☐	☐	☐	☐	☐	☐
U. Fire Protected Double Wall AST	☐	☐	☐	☐	☐	☐
V. Steel with Plastic or Fiberglass Jacket or Double Wall Act 100 with Anodes	☐	☐	☐	☐	☐	☐
W. Steel with FRP Coating (Act 100 or Equivalent) with Anodes	☐	☐	☐	☐	☐	☐
X. Molded Plastic Form (Double Wall) (AST's Only)	☐	☐	☐	☐	☐	☐

Facility ID# Facility Name

Underground Piping Construction & Corrosion Protection – Single/Inner Wall (28)	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**
Primary (Inner) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Underground Piping Construction & Corrosion Protection – Outer Wall (29)	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**
Secondary (Outer) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
L. Poly-encased Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Facility ID# Facility Name

Aboveground Piping Construction & Corrosion Protection (3)	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**
A. Carbon Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Single Wall Fiberglass	☐	☐	☐	☐	☐	☐
E. Single Wall Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
F. PVC	☐	☐	☐	☐	☐	☐
G. None	☐	☐	☐	☐	☐	☐
I. Double Wall - Metallic Primary	☐	☐	☐	☐	☐	☐
J. Double Wall - Rigid (FRP) Primary	☐	☐	☐	☐	☐	☐
K. Double Wall - Flexible Primary	☐	☐	☐	☐	☐	☐
L. Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Product Delivery System (4)	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**
A. Suction: Check valve at pump	☐	☐	☐	☐	☐	☐
B. Suction: Check valve at tank	☐	☐	☐	☐	☐	☐
C. Pressure	☐	☐	☐	☐	☐	☐
D. Gravity fed	☐	☐	☐	☐	☐	☐
E. None	☐	☐	☐	☐	☐	☐

Spill Prevention (6)	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**
S. Permanently installed and liquid tight (single-walled)	☐	☐	☐	☐	☐	☐
D. Permanently installed and liquid tight (double-walled)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐

Facility ID# Facility Name

Overfill Prevention (7)	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**
A. Overfill alarm	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
S. Drop tube shutoff device	☐	☐	☐	☐	☐	☐
Y. Yes (AST only) Type: _____	☐	☐	☐	☐	☐	☐

Emergency Containment (16) ASTs only	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes (includes double-walled tanks with required appurtenances)	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Secondary Containment (17) Single Wall ASTs only	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Stage I Vapor Recovery (19) USTs and ASTs when applicable	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**
A. Coaxial	☐	☐	☐	☐	☐	☐
B. 2 Point	☐	☐	☐	☐	☐	☐
N. None or incomplete	☐	☐	☐	☐	☐	☐

Facility ID# Facility Name

Tank-top Containment Sumps Present (Product Piping Only) (21) USTs only	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some penetrations and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. At all penetrations and liquid tight	☐	☐	☐	☐	☐	☐

Under-dispenser Containment Present (22) USTs only	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some dispensers and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. Under all dispensers and liquid tight	☐	☐	☐	☐	☐	☐

Line Leak Detector Shuts Off Pump (23) USTs only	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Tank Supplies Emergency Generator (25)	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Facility ID# Facility Name

VIII. ABOVEGROUND & UNDERGROUND TANK INFORMATION FOR PERMANENT CLOSURE

Write the Tank Number(s) and place an ☒ in the appropriate box for each tank that was removed or closed in place.

Items 2 & 3 below apply to large ASTs and all USTs	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**	**Tank #**
	049A					
1. Contamination suspected or observed and notification of contamination form was submitted to the appropriate DEP regional office.	☐	☐	☐	☐	☐	☐
2. Closure document submitted to the appropriate DEP regional office.	☒	☐	☐	☐	☐	☐
3. Closure document kept on file by owner.	☒	☐	☐	☐	☐	☐

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. This registration is conditioned upon compliance with provisions of the Storage Tank and Spill Prevention Act of 1989, all applicable regulations, and with the requirements for obtaining and maintaining a permit required under this Act. I certify my responsibility for assuring the following permit requirements:

- Storage tank systems are in compliance with applicable administrative, technical and operational requirements as specified in Subchapter E for underground tanks or Subchapter F or G for aboveground tanks.
- Tank handling and inspection activities are performed by an individual possessing DEP certification in the appropriate category as required in Subchapters A and B.
- Underground storage tanks meet the applicable financial responsibility requirements of Subchapter H (relating to financial responsibility requirements).
- A Spill Prevention Response (SPR) Plan must be submitted to the appropriate DEP regional office for facilities that have aboveground storage tanks where the total capacity of all aboveground tanks is greater than 21,000 gallons.
- Other state and local permits required for operation of the tank system have been attained.

My signature represents to the Department that I own the storage tank(s) and am aware of the responsibilities and potential liabilities as an "owner" arising under the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I am also advised that statements made on this registration is made subject to the penalties of 18 PA. C.S.A. Section 4904 relating to unsworn falsification to authorities.

Type or Print Owner Name : Gary Bowman

Owner Signature	Title	Date
	President	04/27/2022

Information & Invoices should be sent to:

- ☒ **Tank Owner Contact**
- ☒ **Site Contact**
- ☒ **Facility Operator**
- ☐ **Other Responsible Party Identified Below**

Organization Name or Registered Fictitious Name		Employer ID# (EIN)		Dun & Bradstreet ID#
NorthStar Contracting Group, Inc.				
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Bowman	Gary	P	Sr.	
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**

Mailing Address Line 1	Mailing Address Line 2			
2250 East Adams Ave.				
Address Last Line – City		**State**	**ZIP+4**	**Country**
Philadelphia		PA	19124	USA
Contact Title			**Phone**	**Ext.**
President			610-636-4574	
E-mail Address				
gbowman@northstar.com				
Client to Site (Facility) Relationship				

X. INSTALLER / REMOVER CERTIFICATION

This section must be completed by the certified tank handler(s) who is responsible for the installation or removal from service of the aboveground and underground storage tank systems listed in Section VI. Tank modification activity must be submitted on a "Tank Modification Report" form.

SIGNATURE & CERTIFICATION OF INSTALLER(S) / REMOVER(S)

As the certified tank handler responsible for the tank handling activities in the category or categories listed, I certify that all tank handling activities were conducted in compliance with the design, installation and operation standards of the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I also certify, under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided therein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Installer/Remover Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Installer/Remover Signature	Date
049A	Brian Gerner	API 12C	5341	AFMX	1631		4/27/2022

XI. INSPECTOR CERTIFICATION

This section must be completed by the DEP Certified Tank Inspector(s) who is responsible for verifying the installation standards for field constructed tanks and aboveground tanks greater than 21,000 gallons listed in Section VI. (Type or Print legibly) A DEP Certified Inspector may also be responsible for inspecting existing ASTs which are entering regulated service for the first time with no tank handling activities.

SIGNATURE & CERTIFICATION OF INSPECTOR(S)

As the certified tank inspector responsible for verifying tank handling activities and construction standards, I certify that the tank(s) listed below are constructed to appropriate industry standards and, if applicable, to manufacturer's specifications; that the tank(s) have been tested as required by industry standards; and that the tank(s) meet or exceed applicable design and operating standards; and are in compliance with the requirements of the Storage Tank and Spill Prevention Act of 1989, and all applicable regulations. I also certify under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided herein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Inspector Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Inspector Signature	Date

XII. SITE SPECIFIC INSTALLATION PERMIT NUMBER

If a site-specific permit was required for a new tank installation, write the tank number(s) and permit number(s) in the appropriate box.

Site-Specific Installation Permit	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#

JD2 Environmental Inc.
800 East Washington Street • West Chester, PA 19380 • 610.430.8151 • 610.430.8016 Fax • www.jd2env.com

September 28, 2021

VIA EMAIL (ELECTRONIC SUBMISSION)

Pennsylvania Department of Environmental Protection
Central Office - Division of Storage Tanks
Rachel Carson State Office Building
400 Market Street
Harrisburg, Pennsylvania 17101

Subject: Philadelphia Energy Solutions Refining and Marketing, LLC (PES)
PADEP Storage Tanks Registration/Permitting Application Form
PADEP Facility ID #51-33620 - Point Breeze Refinery

Dear PADEP:

On behalf of our client, JD2 Environmental, Inc. (JD2) is attaching the Pennsylvania Department of Environmental Protection's (PADEP's) Storage Tanks Registration/Permitting Application Form for the removal of the following aboveground storage tank (AST):

Facility Name	PADEP Facility ID #	PADEP Tank ID #	Owner Tank ID #	AMS Tank ID #	Removal Date
Point Breeze Refinery	51-33620	059A	PB 885	P-603	9/23/2021

Tank 059A was a 13,158,600-gallon AST which formerly stored Crude Oil.

If you have any questions regarding this submittal, please do not hesitate to contact me at (610) 430-8151.

Sincerely yours,

JD2 ENVIRONMENTAL, INC.

Kristian Satterthwaite

Kristian Satterthwaite
Environmental Scientist
PADEP Inspector #5081

KS:wc
Attachment

cc: REPSG

2630-PM-BECB0514 Rev. 6/2019
Form

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS

STORAGE TANKS REGISTRATION / PERMITTING APPLICATION FORM

Before completing this form, read the step-by-step instructions provided in this application package.

	DEP USE ONLY
	Client ID#
51-33620 Facility ID #	Site ID#
	Account #
	Auth ID#
Phila Ref Point Breeze Facility Name	APS ID#
	Master Auth ID#

I. PURPOSE OF SUBMITTAL

INITIAL (Applies to First-Time Facility Registration)

- ☐ Register Tanks(s) to be Used*
- ☐ Register Tank(s) to be Removed
- ☐ Register Tank(s) to be Temporarily Out of Use
- ☐ Register Tank(s) to be Closed in Place

AMENDED (Applies to Currently Registered Tank(s) or Existing Facility)

- ☐ Changed Owner Information
- ☐ Changed Facility Information
- ☐ Changed to Currently In Use Tank(s)*
- ☐ Changed to Temporarily Out of Use Tank(s)
- ☐ Changed Product
- ☐ Changed Contact Information
- ☐ Changed Facility Operator Information
- ☐ Added Tank(s) to Existing Facility*
- ☒ Changed to Permanently Closed Tank(s)/Removed
- ☐ Changed to Exempt Tank(s)

CHANGE OF OWNERSHIP

- ☐ Tanks Changed Ownership and Remain at Same Facility*

* **For Underground Storage Tanks (UST), attach the UST Operator Training Documentation Form (2630-PM-BECB0514a) and copies of the Class A and Class B operator training certificates.**

II. CURRENT OR NEW TANK OWNER / CLIENT INFORMATION

DEP Client ID#	Client Type/Code	Fee Kind (check one if applicable)
298341		☐ Volunteer Fire Co/EMS Org ☐ State Govt ☐ Fed Govt

Organization Name or Registered Fictitious Name	Employer ID# (EIN)	Dun & Bradstreet ID#
Philadelphia Energy Solutions Refining and Marketing, LLC		

Individual Last Name	First Name	MI	Suffix	SSN
Bowman	Gary	P.	Sr.	

Additional Individual Last Name	First Name	MI	Suffix	SSN

Mailing Address Line 1	Mailing Address Line 2
3144 West Passyunk Avenue	

Address Last Line – City	State	ZIP+4	Country
Philadelphia	PA	19145	USA

Client Contact Last Name	First Name	MI	Suffix
Bowman	Gary	P.	Sr.

Client Contact Title	Phone	Ext
President	610-636-4574	

E-mail Address	FAX
Gbowman@northstar.com	

III. SITE INFORMATION

DEP Site ID# | Site Name

EPA ID# | Estimated Number of Employees to be Present at Site

Description of Site

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

Site Location Line 1 | Site Location Line 2

Site Location Last Line – City | State | ZIP+4

Detailed Written Directions to Site

Site Contact Last Name | First Name | MI | Suffix

Site Contact Title | Site Contact Firm

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4

Phone | Ext | FAX | E-mail Address

NAICS Codes (Two- & Three-Digit Codes – List All That Apply) | 6-Digit Code (Optional)

Site to Client Relationship

IIIa. PROPERTY OWNER INFORMATION

☐ Same as Tank Owner Identified in Section II. ☐ Different than Tank Owner Identified in Section II; identified below.

Organization Name or Registered Fictitious Name | Employer ID# (EIN) | Dun & Bradstreet ID#

Individual Last Name | First Name | MI | Suffix | SSN

Additional Individual Last Name | First Name | MI | Suffix | SSN

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4 | Country

Property Owner Contact Last Name | First Name | MI | Suffix

Property Owner Contact Title | Phone | Ext

E-mail Address | FAX

IV. FACILITY INFORMATION

DEP Storage Tank Facility ID# | **Facility Name** | **Facility Kind**

Facility Location Line 1 (if different than Site Location) | **Facility Location Line 2**

Facility Location Last Line - City | **State** | **ZIP+4**

Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**

Horizontal Accuracy Measure Feet *--or--* Meters

Horizontal Reference Datum Code
- ☐ North American Datum of 1927
- ☐ North American Datum of 1983
- ☐ World Geodetic System of 1984

Horizontal Collection Method Code

Reference Point Code

Altitude Feet *--or--* Meters

Altitude Datum Name
- ☐ The National Geodetic Vertical Datum of 1929
- ☐ The North American Vertical Datum of 1988 (NAVD88)

Altitude (Vertical) Location Datum Collection Method Code

Geometric Type Code

Data Collection Date

Source Map Scale Number Inch(es) = Feet

--or-- Centimeter(s) = Meters

Flammable & Combustible Liquid Permit # (if applicable)

State or Municipality that Issued the Permit

FACILITY OPERATOR INFORMATION

☐ **Same as Owner Identified in Section II.** ☐ **Different than Owner Identified in Section II; identified below.**

DEP Client ID# | **Client Type / Code**

Organization Name or Registered Fictitious Name | **Employer ID# (EIN)** | **Dun & Bradstreet ID#**

Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Additional Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Mailing Address Line 1 | **Mailing Address Line 2**

Address Last Line – City | **State** | **ZIP+4** | **Country**

Client Contact Last Name | **First Name** | **MI** | **Suffix**

Client Contact Title | **Phone** | **Ext**

E-mail Address | **FAX**

V. CHANGE OF OWNERSHIP INFORMATION

☐ **All Tanks Changed Ownership at the Facility**

☐ **Some Tanks Changed Ownership at the Facility** (List all applicable tank numbers in Section VI.)

OWNERSHIP CHANGE TO - Client information is noted in Section II.

OWNERSHIP CHANGE FROM (previous owner information)

Name			
Employer ID# (EIN) or SSN			
Mailing Address Line 1			
Mailing Address Line 2			
Address Last Line - City		**State**	**ZIP+4**
Previous Facility ID#			

DATE OF SALE/TRANSFER	

SIGNATURE & CERTIFICATION OF PREVIOUS OWNER

Previous owner's signature is not available. As required, the "new" owner has attached a deed of transfer or other proof of ownership to this application. ☐ **Yes** ☐ **No** ☐ **N/A**

I have reviewed this form for submission to the Department. I certify under penalty of law as provided in 18 PA. C.S.A. §4903 (relating to false swearing) and 18 PA. C.S.A. §4904 (relating to unsworn falsification to authorities), that I have the authority to sign this Section for the transfer of permit or registration for the storage tanks listed herein. Further, I certify that all information provided in Section V is true, accurate and complete to the best of my knowledge and belief.

Type or Print Previous Owner Name

Previous Owner Signature	**Title**	**Date**

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VI. STORAGE DESCRIPTION

Type or print legibly each regulated storage tank at this facility under your ownership.
Status Codes: C-Currently in Use T-Temporarily Out of Use E-Exempt R-Removed P-Closed In Place
Type Codes: M-Manufactured F-Field Constructed

A. ABOVEGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code
059A	T	R	F	01/01/1974	09/23/2021	13,158,600		Crude Oil		
A										
A										
A										
A										
A										
A										
A										
A										
A										

B. UNDERGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VII. ABOVEGROUND & UNDERGROUND NEW TANK INSTALLATION INFORMATION

The DEP Certified Installer should complete this section. New tanks listed in Section VI must also be listed in this Section. Write the Tank Number(s) and place an ☒ in the appropriate box for each component that was installed.

Tank Construction & Corrosion Protection (1)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Tank Manufacturer:						
Model:						
A. Unprotected Steel (Single Wall)	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Steel (Galvanic)	☐	☐	☐	☐	☐	☐
C. Cathodically Protected Steel (Impressed Current)	☐	☐	☐	☐	☐	☐
D. Unprotected Steel (Double Wall)	☐	☐	☐	☐	☐	☐
E. Fiberglass (Single Wall)	☐	☐	☐	☐	☐	☐
F. Fiberglass (Double Wall)	☐	☐	☐	☐	☐	☐
G. Steel w/Plastic or Fiberglass Jacket or Double Wall Act 100	☐	☐	☐	☐	☐	☐
H. Steel With FRP Coating (Act 100 or Equivalent)	☐	☐	☐	☐	☐	☐
I. Steel with Lined Interior	☐	☐	☐	☐	☐	☐
J. Concrete	☐	☐	☐	☐	☐	☐
O. Cathodically Protected Double Wall Steel (Galvanic)	☐	☐	☐	☐	☐	☐
P. Cathodically Protected Steel with Liner	☐	☐	☐	☐	☐	☐
Q. Double Bottom (ASTs Only)	☐	☐	☐	☐	☐	☐
R. Molded Plastic Form (ASTs Only)	☐	☐	☐	☐	☐	☐
S. Stainless Steel	☐	☐	☐	☐	☐	☐
T. Aluminum	☐	☐	☐	☐	☐	☐
U. Fire Protected Double Wall AST	☐	☐	☐	☐	☐	☐
V. Steel with Plastic or Fiberglass Jacket or Double Wall Act 100 with Anodes	☐	☐	☐	☐	☐	☐
W. Steel with FRP Coating (Act 100 or Equivalent) with Anodes	☐	☐	☐	☐	☐	☐
X. Molded Plastic Form (Double Wall) (AST's Only)	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Underground Piping Construction & Corrosion Protection – Single/Inner Wall (28)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Primary (Inner) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Underground Piping Construction & Corrosion Protection – Outer Wall (29)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Secondary (Outer) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
L. Poly-encased Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Aboveground Piping Construction & Corrosion Protection (3)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Carbon Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Single Wall Fiberglass	☐	☐	☐	☐	☐	☐
E. Single Wall Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
F. PVC	☐	☐	☐	☐	☐	☐
G. None	☐	☐	☐	☐	☐	☐
I. Double Wall - Metallic Primary	☐	☐	☐	☐	☐	☐
J. Double Wall - Rigid (FRP) Primary	☐	☐	☐	☐	☐	☐
K. Double Wall - Flexible Primary	☐	☐	☐	☐	☐	☐
L. Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Product Delivery System (4)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Suction: Check valve at pump	☐	☐	☐	☐	☐	☐
B. Suction: Check valve at tank	☐	☐	☐	☐	☐	☐
C. Pressure	☐	☐	☐	☐	☐	☐
D. Gravity fed	☐	☐	☐	☐	☐	☐
E. None	☐	☐	☐	☐	☐	☐

Spill Prevention (6)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
S. Permanently installed and liquid tight (single-walled)	☐	☐	☐	☐	☐	☐
D. Permanently installed and liquid tight (double-walled)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Overfill Prevention (7)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Overfill alarm	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
S. Drop tube shutoff device	☐	☐	☐	☐	☐	☐
Y. Yes (AST only) Type: _____	☐	☐	☐	☐	☐	☐

Emergency Containment (16) ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes (includes double-walled tanks with required appurtenances)	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Secondary Containment (17) Single Wall ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Stage I Vapor Recovery (19) USTs and ASTs when applicable	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Coaxial	☐	☐	☐	☐	☐	☐
B. 2 Point	☐	☐	☐	☐	☐	☐
N. None or incomplete	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

Tank-top Containment Sumps Present (Product Piping Only) (21) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some penetrations and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. At all penetrations and liquid tight	☐	☐	☐	☐	☐	☐

Under-dispenser Containment Present (22) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some dispensers and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. Under all dispensers and liquid tight	☐	☐	☐	☐	☐	☐

Line Leak Detector Shuts Off Pump (23) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Tank Supplies Emergency Generator (25)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Facility ID# 51-33620 Facility Name Phila Ref Point Breeze

VIII. ABOVEGROUND & UNDERGROUND TANK INFORMATION FOR PERMANENT CLOSURE

Write the Tank Number(s) and place an ☒ in the appropriate box for each tank that was removed or closed in place.

Items 2 & 3 below apply to large ASTs and all USTs	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
	059A					
1. Contamination suspected or observed and notification of contamination form was submitted to the appropriate DEP regional office.	☐	☐	☐	☐	☐	☐
2. Closure document submitted to the appropriate DEP regional office.	☒	☐	☐	☐	☐	☐
3. Closure document kept on file by owner.	☒	☐	☐	☐	☐	☐

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. This registration is conditioned upon compliance with provisions of the Storage Tank and Spill Prevention Act of 1989, all applicable regulations, and with the requirements for obtaining and maintaining a permit required under this Act. I certify my responsibility for assuring the following permit requirements:

- Storage tank systems are in compliance with applicable administrative, technical and operational requirements as specified in Subchapter E for underground tanks or Subchapter F or G for aboveground tanks.
- Tank handling and inspection activities are performed by an individual possessing DEP certification in the appropriate category as required in Subchapters A and B.
- Underground storage tanks meet the applicable financial responsibility requirements of Subchapter H (relating to financial responsibility requirements).
- A Spill Prevention Response (SPR) Plan must be submitted to the appropriate DEP regional office for facilities that have aboveground storage tanks where the total capacity of all aboveground tanks is greater than 21,000 gallons.
- Other state and local permits required for operation of the tank system have been attained.

My signature represents to the Department that I own the storage tank(s) and am aware of the responsibilities and potential liabilities as an "owner" arising under the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I am also advised that statements made on this registration is made subject to the penalties of 18 PA. C.S.A. Section 4904 relating to unsworn falsification to authorities.

Type or Print Owner Name Gary Bowman

Owner Signature	Title	Date
	President	9/27/2021

Information & Invoices should be sent to:

- ☒ **Tank Owner Contact**
- ☒ **Site Contact**
- ☒ **Facility Operator**
- ☐ **Other Responsible Party Identified Below**

Organization Name or Registered Fictitious Name		Employer ID# (EIN)		Dun & Bradstreet ID#
NorthStar Contracting Group, Inc.				
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Bowman	Gary	P.	Sr.	
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**

Mailing Address Line 1	Mailing Address Line 2			
2250 East Adams Avenue				
Address Last Line – City		**State**	**ZIP+4**	**Country**
Philadelphia		PA	19124	USA
Contact Title			**Phone**	**Ext.**
President			610-636-4574	
E-mail Address				
Gbowman@northstar.com				
Client to Site (Facility) Relationship				

X. INSTALLER / REMOVER CERTIFICATION

This section must be completed by the certified tank handler(s) who is responsible for the installation or removal from service of the aboveground and underground storage tank systems listed in Section VI. Tank modification activity must be submitted on a "Tank Modification Report" form.

SIGNATURE & CERTIFICATION OF INSTALLER(S) / REMOVER(S)

As the certified tank handler responsible for the tank handling activities in the category or categories listed, I certify that all tank handling activities were conducted in compliance with the design, installation and operation standards of the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I also certify, under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided therein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Installer/Remover Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Installer/Remover Signature	Date
059A	Kristian Satterthwaite		5081	AFR	1557	Kristian Satterthwaite	9/29/21

XI. INSPECTOR CERTIFICATION

This section must be completed by the DEP Certified Tank Inspector(s) who is responsible for verifying the installation standards for field constructed tanks and aboveground tanks greater than 21,000 gallons listed in Section VI. (Type or Print legibly) A DEP Certified Inspector may also be responsible for inspecting existing ASTs which are entering regulated service for the first time with no tank handling activities.

SIGNATURE & CERTIFICATION OF INSPECTOR(S)

As the certified tank inspector responsible for verifying tank handling activities and construction standards, I certify that the tank(s) listed below are constructed to appropriate industry standards and, if applicable, to manufacturer's specifications; that the tank(s) have been tested as required by industry standards; and that the tank(s) meet or exceed applicable design and operating standards; and are in compliance with the requirements of the Storage Tank and Spill Prevention Act of 1989, and all applicable regulations. I also certify under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided herein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Inspector Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Inspector Signature	Date

XII. SITE SPECIFIC INSTALLATION PERMIT NUMBER

If a site-specific permit was required for a new tank installation, write the tank number(s) and permit number(s) in the appropriate box.

Site-Specific Installation Permit	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#

2250 E Adams Ave • Philadelphia, PA 19124
Office: 215.533.8890 • Fax: 215.533.8897
Website • www.NorthStar.com

February 4, 2022

Pennsylvania Department of Environmental Protection
Southeast Regional Office
Division of Storage Tanks
2 East Main Street
Norristown, Pennsylvania 19401
Via email: RA-serotanks@pa.gov, ra-tanks@pa.gov

Re: Philadelphia Energy Solutions Refining and Marketing, LLC (PES)
PADEP Storage Tanks Registration/Permitting Application Form
PADEP Facility ID #51-33620 - Point Breeze Refinery

To whom it may concern:

Please find NorthStar Contracting Group, Inc.'s submittal of the Pennsylvania Department of Environmental Protection's (PADEP's) Storage Tank Registration/Permitting Application Forms for the removal of the following five (5) aboveground storage tanks located at the Philadelphia Energy Solutions Refining and Marketing, LLC Point Breeze site.

Removed					
Facility Name	**PADEP Facility ID #**	**PADEP Tank ID #**	**Owner Tank ID #**	**AMS Tank ID #**	**Removal Date**
Point Breeze Refinery	51-33620	011A	PB 881	P-599	01/08/2022
Point Breeze Refinery	51-33620	088A	PB 848	P-595	01/20/2022
Point Breeze Refinery	51-33620	045A	PB 821	P-574	01/26/2022
Point Breeze Refinery	51-33620	046A	PB 822	P-575	01/31/2022
Point Breeze Refinery	51-33620	055A	PB 847	P-594	02/03/2022

If you have any questions, please do not hesitate to contact me at 440-228-1524.

Respectfully Submitted,

Robert Armstrong
Sr. Project Manager
NorthStar Contracting Group, Inc.
Enclosures: Storage Tank Registration/Permitting Application Form

cc:

Gary Bowman (NorthStar)
Dr. Kassahun Sellassie (AMS)
Thomas Barsley (AMS)
Charles Barksdale (Hilco)
Edward Wiener (AMS)
Mike Leonardo (Hilco)

2630-PM-BECB0514 Rev. 6/2019
Form

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS

STORAGE TANKS REGISTRATION / PERMITTING APPLICATION FORM

Before completing this form, read the step-by-step instructions provided in this application package.

	DEP USE ONLY
51-33620 Facility ID #	Client ID#
	Site ID#
	Account #
	Auth ID#
Phila Ref Point Breeze Facility Name	APS ID#
	Master Auth ID#

I. PURPOSE OF SUBMITTAL

INITIAL (Applies to First-Time Facility Registration)

- ☐ Register Tanks(s) to be Used*
- ☐ Register Tank(s) to be Removed
- ☐ Register Tank(s) to be Temporarily Out of Use
- ☐ Register Tank(s) to be Closed in Place

AMENDED (Applies to Currently Registered Tank(s) or Existing Facility)

- ☐ Changed Owner Information
- ☐ Changed Facility Information
- ☐ Changed to Currently In Use Tank(s)*
- ☐ Changed to Temporarily Out of Use Tank(s)
- ☐ Changed Product
- ☐ Changed Contact Information
- ☐ Changed Facility Operator Information
- ☐ Added Tank(s) to Existing Facility*
- ☒ Changed to Permanently Closed Tank(s)/Removed
- ☐ Changed to Exempt Tank(s)

CHANGE OF OWNERSHIP

- ☐ Tanks Changed Ownership and Remain at Same Facility*

* **For Underground Storage Tanks (UST), attach the UST Operator Training Documentation Form (2630-PM-BECB0514a) and copies of the Class A and Class B operator training certificates.**

II. CURRENT OR NEW TANK OWNER / CLIENT INFORMATION

DEP Client ID#	Client Type/Code	Fee Kind (check one if applicable)		
298341		☐ Volunteer Fire Co/EMS Org	☐ State Govt	☐ Fed Govt

Organization Name or Registered Fictitious Name		Employer ID# (EIN)		Dun & Bradstreet ID#
Philadelphia Energy Solutions Refining and Marketing, LLC				
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Bowman	Gary	P	Sr.	
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Mailing Address Line 1	**Mailing Address Line 2**			
3144 West Passyunk Avenue				
Address Last Line – City	**State**	**ZIP+4**	**Country**	
Philadelphia	PA	19145	USA	
Client Contact Last Name	**First Name**	**MI**	**Suffix**	
Bowman	Gary	P	Sr.	
Client Contact Title		**Phone**	**Ext**	
President		610-636-4574		
E-mail Address			**FAX**	
gbowman@northstar.com				

III. SITE INFORMATION

DEP Site ID# | Site Name

EPA ID# | Estimated Number of Employees to be Present at Site

Description of Site

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

Site Location Line 1 | Site Location Line 2

Site Location Last Line – City | State | ZIP+4

Detailed Written Directions to Site

Site Contact Last Name | First Name | MI | Suffix

Site Contact Title | Site Contact Firm

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4

Phone | Ext | FAX | E-mail Address

NAICS Codes (Two- & Three-Digit Codes – List All That Apply) | 6-Digit Code (Optional)

Site to Client Relationship

IIIa. PROPERTY OWNER INFORMATION

☐ Same as Tank Owner Identified in Section II. ☐ Different than Tank Owner Identified in Section II; identified below.

Organization Name or Registered Fictitious Name | Employer ID# (EIN) | Dun & Bradstreet ID#

Individual Last Name | First Name | MI | Suffix | SSN

Additional Individual Last Name | First Name | MI | Suffix | SSN

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4 | Country

Property Owner Contact Last Name | First Name | MI | Suffix

Property Owner Contact Title | Phone | Ext

E-mail Address | FAX

IV. FACILITY INFORMATION

DEP Storage Tank Facility ID# | **Facility Name** | **Facility Kind**

Facility Location Line 1 (if different than Site Location) | **Facility Location Line 2**

Facility Location Last Line - City | **State** | **ZIP+4**

Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

Horizontal Accuracy Measure Feet --or-- Meters

Horizontal Reference Datum Code
- ☐ North American Datum of 1927
- ☐ North American Datum of 1983
- ☐ World Geodetic System of 1984

Horizontal Collection Method Code

Reference Point Code

Altitude Feet --or-- Meters

Altitude Datum Name
- ☐ The National Geodetic Vertical Datum of 1929
- ☐ The North American Vertical Datum of 1988 (NAVD88)

Altitude (Vertical) Location Datum Collection Method Code

Geometric Type Code

Data Collection Date

Source Map Scale Number Inch(es) = Feet

--or-- Centimeter(s) = Meters

Flammable & Combustible Liquid Permit # (if applicable)

State or Municipality that Issued the Permit

FACILITY OPERATOR INFORMATION

☐ **Same as Owner Identified in Section II.** ☐ **Different than Owner Identified in Section II; identified below.**

DEP Client ID# | **Client Type / Code**

Organization Name or Registered Fictitious Name | **Employer ID# (EIN)** | **Dun & Bradstreet ID#**

Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Additional Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Mailing Address Line 1 | **Mailing Address Line 2**

Address Last Line – City | **State** | **ZIP+4** | **Country**

Client Contact Last Name | **First Name** | **MI** | **Suffix**

Client Contact Title | **Phone** | **Ext**

E-mail Address | **FAX**

V. CHANGE OF OWNERSHIP INFORMATION

☐ **All Tanks Changed Ownership at the Facility**

☐ **Some Tanks Changed Ownership at the Facility** (List all applicable tank numbers in Section VI.)

OWNERSHIP CHANGE TO - Client information is noted in Section II.

OWNERSHIP CHANGE FROM (previous owner information)

Name

Employer ID# (EIN) or SSN

Mailing Address Line 1

Mailing Address Line 2

Address Last Line - City **State** **ZIP+4**

Previous Facility ID#

DATE OF SALE/TRANSFER	

SIGNATURE & CERTIFICATION OF PREVIOUS OWNER

Previous owner's signature is not available. As required, the "new" owner has attached a deed of transfer or other proof of ownership to this application. ☐ **Yes** ☐ **No** ☐ **N/A**

I have reviewed this form for submission to the Department. I certify under penalty of law as provided in 18 PA. C.S.A. §4903 (relating to false swearing) and 18 PA. C.S.A. §4904 (relating to unsworn falsification to authorities), that I have the authority to sign this Section for the transfer of permit or registration for the storage tanks listed herein. Further, I certify that all information provided in Section V is true, accurate and complete to the best of my knowledge and belief.

Type or Print Previous Owner Name

Previous Owner Signature **Title** **Date**

Facility ID# Facility Name

VI. STORAGE DESCRIPTION

Type or print legibly each regulated storage tank at this facility under your ownership.
Status Codes: C-Currently in Use T-Temporarily Out of Use E-Exempt R-Removed P-Closed In Place
Type Codes: M-Manufactured F-Field Constructed

A. ABOVEGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code
011A	T	R	F	01/01/1958	01/08/2022	8568000		Petroleum Crude Oil		
088A	T	R	F	01/01/1953	01/20/2022	5640810		Light Cycle Oil		
045A	T	R	F	01/01/1941	01/26/2022	5359200		Light Cycle Oil		
046A	T	R	F	01/01/1941	01/31/2022	5359200		Light Cycle Oil		
055A	T	R	F	01/01/1954	02/03/2022	6346200		Crude		
A										
A										
A										
A										
A										

B. UNDERGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code

Facility ID# Facility Name

VII. ABOVEGROUND & UNDERGROUND NEW TANK INSTALLATION INFORMATION

The DEP Certified Installer should complete this section. New tanks listed in Section VI must also be listed in this Section. Write the Tank Number(s) and place an ☒ in the appropriate box for each component that was installed.

Tank Construction & Corrosion Protection (1)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Tank Manufacturer:						
Model:						
A. Unprotected Steel (Single Wall)	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Steel (Galvanic)	☐	☐	☐	☐	☐	☐
C. Cathodically Protected Steel (Impressed Current)	☐	☐	☐	☐	☐	☐
D. Unprotected Steel (Double Wall)	☐	☐	☐	☐	☐	☐
E. Fiberglass (Single Wall)	☐	☐	☐	☐	☐	☐
F. Fiberglass (Double Wall)	☐	☐	☐	☐	☐	☐
G. Steel w/Plastic or Fiberglass Jacket or Double Wall Act 100	☐	☐	☐	☐	☐	☐
H. Steel With FRP Coating (Act 100 or Equivalent)	☐	☐	☐	☐	☐	☐
I. Steel with Lined Interior	☐	☐	☐	☐	☐	☐
J. Concrete	☐	☐	☐	☐	☐	☐
O. Cathodically Protected Double Wall Steel (Galvanic)	☐	☐	☐	☐	☐	☐
P. Cathodically Protected Steel with Liner	☐	☐	☐	☐	☐	☐
Q. Double Bottom (ASTs Only)	☐	☐	☐	☐	☐	☐
R. Molded Plastic Form (ASTs Only)	☐	☐	☐	☐	☐	☐
S. Stainless Steel	☐	☐	☐	☐	☐	☐
T. Aluminum	☐	☐	☐	☐	☐	☐
U. Fire Protected Double Wall AST	☐	☐	☐	☐	☐	☐
V. Steel with Plastic or Fiberglass Jacket or Double Wall Act 100 with Anodes	☐	☐	☐	☐	☐	☐
W. Steel with FRP Coating (Act 100 or Equivalent) with Anodes	☐	☐	☐	☐	☐	☐
X. Molded Plastic Form (Double Wall) (AST's Only)	☐	☐	☐	☐	☐	☐

Facility ID# Facility Name

Underground Piping Construction & Corrosion Protection – Single/Inner Wall (28)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Primary (Inner) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Underground Piping Construction & Corrosion Protection – Outer Wall (29)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Secondary (Outer) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
L. Poly-encased Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Facility ID# Facility Name

Aboveground Piping Construction & Corrosion Protection (3)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Carbon Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Single Wall Fiberglass	☐	☐	☐	☐	☐	☐
E. Single Wall Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
F. PVC	☐	☐	☐	☐	☐	☐
G. None	☐	☐	☐	☐	☐	☐
I. Double Wall - Metallic Primary	☐	☐	☐	☐	☐	☐
J. Double Wall - Rigid (FRP) Primary	☐	☐	☐	☐	☐	☐
K. Double Wall - Flexible Primary	☐	☐	☐	☐	☐	☐
L. Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Product Delivery System (4)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Suction: Check valve at pump	☐	☐	☐	☐	☐	☐
B. Suction: Check valve at tank	☐	☐	☐	☐	☐	☐
C. Pressure	☐	☐	☐	☐	☐	☐
D. Gravity fed	☐	☐	☐	☐	☐	☐
E. None	☐	☐	☐	☐	☐	☐

Spill Prevention (6)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
S. Permanently installed and liquid tight (single-walled)	☐	☐	☐	☐	☐	☐
D. Permanently installed and liquid tight (double-walled)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐

Facility ID# Facility Name

Overfill Prevention (7)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Overfill alarm	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
S. Drop tube shutoff device	☐	☐	☐	☐	☐	☐
Y. Yes (AST only) Type: _____	☐	☐	☐	☐	☐	☐

Emergency Containment (16) ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes (includes double-walled tanks with required appurtenances)	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Secondary Containment (17) Single Wall ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Stage I Vapor Recovery (19) USTs and ASTs when applicable	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Coaxial	☐	☐	☐	☐	☐	☐
B. 2 Point	☐	☐	☐	☐	☐	☐
N. None or incomplete	☐	☐	☐	☐	☐	☐

Facility ID# Facility Name

Tank-top Containment Sumps Present (Product Piping Only) (21) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some penetrations and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. At all penetrations and liquid tight	☐	☐	☐	☐	☐	☐

Under-dispenser Containment Present (22) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some dispensers and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. Under all dispensers and liquid tight	☐	☐	☐	☐	☐	☐

Line Leak Detector Shuts Off Pump (23) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Tank Supplies Emergency Generator (25)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Facility ID# Facility Name

VIII. ABOVEGROUND & UNDERGROUND TANK INFORMATION FOR PERMANENT CLOSURE

Write the Tank Number(s) and place an ☒ in the appropriate box for each tank that was removed or closed in place.

Items 2 & 3 below apply to large ASTs and all USTs	Tank # 011A	Tank # 088A	Tank # 045A	Tank # 046A	Tank # 055A	Tank #
1. Contamination suspected or observed and notification of contamination form was submitted to the appropriate DEP regional office.	☐	☐	☐	☐	☐	☐
2. Closure document submitted to the appropriate DEP regional office.	☒	☒	☒	☒	☒	☐
3. Closure document kept on file by owner.	☒	☒	☒	☒	☒	☐

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. This registration is conditioned upon compliance with provisions of the Storage Tank and Spill Prevention Act of 1989, all applicable regulations, and with the requirements for obtaining and maintaining a permit required under this Act. I certify my responsibility for assuring the following permit requirements:

- Storage tank systems are in compliance with applicable administrative, technical and operational requirements as specified in Subchapter E for underground tanks or Subchapter F or G for aboveground tanks.
- Tank handling and inspection activities are performed by an individual possessing DEP certification in the appropriate category as required in Subchapters A and B.
- Underground storage tanks meet the applicable financial responsibility requirements of Subchapter H (relating to financial responsibility requirements).
- A Spill Prevention Response (SPR) Plan must be submitted to the appropriate DEP regional office for facilities that have aboveground storage tanks where the total capacity of all aboveground tanks is greater than 21,000 gallons.
- Other state and local permits required for operation of the tank system have been attained.

My signature represents to the Department that I own the storage tank(s) and am aware of the responsibilities and potential liabilities as an "owner" arising under the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I am also advised that statements made on this registration is made subject to the penalties of 18 PA. C.S.A. Section 4904 relating to unsworn falsification to authorities.

Type or Print Owner Name : Gary Bowman

Owner Signature	President Title	02/03/2022 Date

Information & Invoices should be sent to:

- ☒ **Tank Owner Contact**
- ☒ **Site Contact**
- ☒ **Facility Operator**
- ☐ **Other Responsible Party Identified Below**

Organization Name or Registered Fictitious Name			Employer ID# (EIN)	Dun & Bradstreet ID#
NorthStar Contracting Group, Inc.				
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Bowman	Gary	P	Sr.	
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**

Mailing Address Line 1	Mailing Address Line 2			
2250 East Adams Ave.				
Address Last Line – City		**State**	**ZIP+4**	**Country**
Philadelphia		PA	19124	USA
Contact Title			**Phone**	**Ext.**
President			610-636-4574	
E-mail Address				
gbowman@northstar.com				
Client to Site (Facility) Relationship				

X. INSTALLER / REMOVER CERTIFICATION

This section must be completed by the certified tank handler(s) who is responsible for the installation or removal from service of the aboveground and underground storage tank systems listed in Section VI. Tank modification activity must be submitted on a "Tank Modification Report" form.

SIGNATURE & CERTIFICATION OF INSTALLER(S) / REMOVER(S)

As the certified tank handler responsible for the tank handling activities in the category or categories listed, I certify that all tank handling activities were conducted in compliance with the design, installation and operation standards of the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I also certify, under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided therein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Installer/Remover Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Installer/Remover Signature	Date
011A	Brian Gerner	API 12C	5341	AFMX	1631		2/2/22
088A	Brian Gerner	API 12C	5341	AFMX	1631		2/4/22
045A	Brian Gerner	API 12C	5341	AFMX	1631		2/4/22
046A	Brian Gerner	API 12C	5341	AFMX	1631		2/4/22
055A	Brian Gerner	API 12C	5341	AFMX	1631		2/4/22

XI. INSPECTOR CERTIFICATION

This section must be completed by the DEP Certified Tank Inspector(s) who is responsible for verifying the installation standards for field constructed tanks and aboveground tanks greater than 21,000 gallons listed in Section VI. (Type or Print legibly) A DEP Certified Inspector may also be responsible for inspecting existing ASTs which are entering regulated service for the first time with no tank handling activities.

SIGNATURE & CERTIFICATION OF INSPECTOR(S)

As the certified tank inspector responsible for verifying tank handling activities and construction standards, I certify that the tank(s) listed below are constructed to appropriate industry standards and, if applicable, to manufacturer's specifications; that the tank(s) have been tested as required by industry standards; and that the tank(s) meet or exceed applicable design and operating standards; and are in compliance with the requirements of the Storage Tank and Spill Prevention Act of 1989, and all applicable regulations. I also certify under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided herein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Inspector Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Inspector Signature	Date

XII. SITE SPECIFIC INSTALLATION PERMIT NUMBER

If a site-specific permit was required for a new tank installation, write the tank number(s) and permit number(s) in the appropriate box.

Site-Specific Installation Permit	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#

NorthStar
Contracting Group, Inc.

2250 E Adams Ave • Philadelphia, PA 19124
Office: 215.533.8890 • Fax: 215.533.8897
Website • www.NorthStar.com

March 30, 2022

Pennsylvania Department of Environmental Protection
Southeast Regional Office
Division of Storage Tanks
2 East Main Street
Norristown, Pennsylvania 19401
Via email: RA-serotanks@pa.gov, ra-tanks@pa.gov

Re: Philadelphia Energy Solutions Refining and Marketing, LLC (PES)
PADEP Storage Tanks Registration/Permitting Application Form
PADEP Facility ID # 51-33620 – Point Breeze Refinery

To whom it may concern:

Please find NorthStar Contracting Group, Inc.'s submittal of the Pennsylvania Department of Environmental Protection's (PADEP's) Storage Tank Registration/Permitting Application Form for the removal of the following six (6) aboveground storage tanks located at the Philadelphia Energy Solutions Refining and Marketing, LLC Point Breeze site.

Removed					
Facility Name	PADEP Facility ID #	PADEP Tank ID #	Owner Tank ID #	AMS Tank ID #	Removal Date
Point Breeze Refinery	51-33620	034A	PB-151	P-534	03/22/2022
Point Breeze Refinery	51-33620	010A	PB-835	P-584	03/30/2022
Point Breeze Refinery	51-33620	052A	PB-836	P-585	03/30/2022
Point Breeze Refinery	51-33620	053A	PB-840	P-587	03/04/2022
Point Breeze Refinery	51-33620	054A	PB-841	P-588	03/14/2022
Point Breeze Refinery	51-33620	086A	PB-843	P-590	03/16/2022

If you have any questions, please do not hesitate to contact me at 440-228-1524.

Respectfully Submitted,

Robert Armstrong
Sr. Project Manager
NorthStar Contracting Group, Inc.
Enclosures: Storage Tank Registration/Permitting Application Form

cc:

Gary Bowman (NorthStar)
Dr. Kassahun Sellassie (AMS)
Thomas Barsley (AMS)
Charles Barksdale (Hilco)
Edward Wiener (AMS)
Mike Leonardo (Hilco)

2630-PM-BECB0514 Rev. 6/2019
Form

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS

STORAGE TANKS REGISTRATION / PERMITTING APPLICATION FORM

Before completing this form, read the step-by-step instructions provided in this application package.

	DEP USE ONLY
51-33620 Facility ID #	Client ID#
	Site ID#
	Account #
	Auth ID#
Phila Ref Point Breeze Facility Name	APS ID#
	Master Auth ID#

I. PURPOSE OF SUBMITTAL

INITIAL (Applies to First-Time Facility Registration)

- ☐ Register Tanks(s) to be Used*
- ☐ Register Tank(s) to be Removed
- ☐ Register Tank(s) to be Temporarily Out of Use
- ☐ Register Tank(s) to be Closed in Place

AMENDED (Applies to Currently Registered Tank(s) or Existing Facility)

- ☐ Changed Owner Information
- ☐ Changed Facility Information
- ☐ Changed to Currently In Use Tank(s)*
- ☐ Changed to Temporarily Out of Use Tank(s)
- ☐ Changed Product
- ☐ Changed Contact Information
- ☐ Changed Facility Operator Information
- ☐ Added Tank(s) to Existing Facility*
- ☒ Changed to Permanently Closed Tank(s)/Removed
- ☐ Changed to Exempt Tank(s)

CHANGE OF OWNERSHIP

- ☐ Tanks Changed Ownership and Remain at Same Facility*

* **For Underground Storage Tanks (UST), attach the UST Operator Training Documentation Form (2630-PM-BECB0514a) and copies of the Class A and Class B operator training certificates.**

II. CURRENT OR NEW TANK OWNER / CLIENT INFORMATION

DEP Client ID#	Client Type/Code	Fee Kind (check one if applicable)		
298341		☐ Volunteer Fire Co/EMS Org	☐ State Govt	☐ Fed Govt

Organization Name or Registered Fictitious Name	Employer ID# (EIN)	Dun & Bradstreet ID#
Philadelphia Energy Solutions Refining and Marketing, LLC		

Individual Last Name	First Name	MI	Suffix	SSN
Bowman	Gary	P	Sr.	

Additional Individual Last Name	First Name	MI	Suffix	SSN

Mailing Address Line 1	Mailing Address Line 2		
3144 West Passyunk Avenue			
Address Last Line – City	**State**	**ZIP+4**	**Country**
Philadelphia	PA	19145	USA
Client Contact Last Name	**First Name**	**MI**	**Suffix**
Bowman	Gary	P	Sr.
Client Contact Title		**Phone**	**Ext**
President		610-636-4574	
E-mail Address			**FAX**
gbowman@northstar.com			

III. SITE INFORMATION

DEP Site ID# | Site Name

EPA ID# | Estimated Number of Employees to be Present at Site

Description of Site

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

County Name | Municipality | City ☐ | Boro ☐ | Twp ☐ | State

Site Location Line 1 | Site Location Line 2

Site Location Last Line – City | State | ZIP+4

Detailed Written Directions to Site

Site Contact Last Name | First Name | MI | Suffix

Site Contact Title | Site Contact Firm

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4

Phone | Ext | FAX | E-mail Address

NAICS Codes (Two- & Three-Digit Codes – List All That Apply) | 6-Digit Code (Optional)

Site to Client Relationship

IIIa. PROPERTY OWNER INFORMATION

☐ Same as Tank Owner Identified in Section II. ☐ Different than Tank Owner Identified in Section II; identified below.

Organization Name or Registered Fictitious Name | Employer ID# (EIN) | Dun & Bradstreet ID#

Individual Last Name | First Name | MI | Suffix | SSN

Additional Individual Last Name | First Name | MI | Suffix | SSN

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4 | Country

Property Owner Contact Last Name | First Name | MI | Suffix

Property Owner Contact Title | Phone | Ext

E-mail Address | FAX

IV. FACILITY INFORMATION

DEP Storage Tank Facility ID# | **Facility Name** | **Facility Kind**

Facility Location Line 1 (if different than Site Location) | **Facility Location Line 2**

Facility Location Last Line - City | **State** | **ZIP+4**

Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

Horizontal Accuracy Measure Feet --or-- Meters

Horizontal Reference Datum Code
- ☐ North American Datum of 1927
- ☐ North American Datum of 1983
- ☐ World Geodetic System of 1984

Horizontal Collection Method Code

Reference Point Code

Altitude Feet --or-- Meters

Altitude Datum Name
- ☐ The National Geodetic Vertical Datum of 1929
- ☐ The North American Vertical Datum of 1988 (NAVD88)

Altitude (Vertical) Location Datum Collection Method Code

Geometric Type Code

Data Collection Date

Source Map Scale Number Inch(es) = Feet

--or-- Centimeter(s) = Meters

Flammable & Combustible Liquid Permit # (if applicable)

State or Municipality that Issued the Permit

FACILITY OPERATOR INFORMATION

☐ **Same as Owner Identified in Section II.** ☐ **Different than Owner Identified in Section II; identified below.**

DEP Client ID# | **Client Type / Code**

Organization Name or Registered Fictitious Name | **Employer ID# (EIN)** | **Dun & Bradstreet ID#**

Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Additional Individual Last Name | **First Name** | **MI** | **Suffix** | **SSN**

Mailing Address Line 1 | **Mailing Address Line 2**

Address Last Line – City | **State** | **ZIP+4** | **Country**

Client Contact Last Name | **First Name** | **MI** | **Suffix**

Client Contact Title | **Phone** | **Ext**

E-mail Address | **FAX**

V. CHANGE OF OWNERSHIP INFORMATION

☐ **All Tanks Changed Ownership at the Facility**

☐ **Some Tanks Changed Ownership at the Facility** (List all applicable tank numbers in Section VI.)

OWNERSHIP CHANGE TO - Client information is noted in Section II.

OWNERSHIP CHANGE FROM (previous owner information)

Name

Employer ID# (EIN) or SSN

Mailing Address Line 1

Mailing Address Line 2

Address Last Line - City **State** **ZIP+4**

Previous Facility ID#

DATE OF SALE/TRANSFER	

SIGNATURE & CERTIFICATION OF PREVIOUS OWNER

Previous owner's signature is not available. As required, the "new" owner has attached a deed of transfer or other proof of ownership to this application. ☐ **Yes** ☐ **No** ☐ **N/A**

I have reviewed this form for submission to the Department. I certify under penalty of law as provided in 18 PA. C.S.A. §4903 (relating to false swearing) and 18 PA. C.S.A. §4904 (relating to unsworn falsification to authorities), that I have the authority to sign this Section for the transfer of permit or registration for the storage tanks listed herein. Further, I certify that all information provided in Section V is true, accurate and complete to the best of my knowledge and belief.

Type or Print Previous Owner Name

Previous Owner Signature **Title** **Date**

Facility ID# Facility Name

VI. STORAGE DESCRIPTION

Type or print legibly each regulated storage tank at this facility under your ownership.
Status Codes: C-Currently in Use T-Temporarily Out of Use E-Exempt R-Removed P-Closed In Place
Type Codes: M-Manufactured F-Field Constructed

A. ABOVEGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code
034A	T	R	F	1957	03-22-2022	4,032,000	Vacuum Gas Oil			
010A	T	R	F	1953	03-30-2022	5,359,200	Distillate-Untreated			
052A	T	R	F	1954	03-30-2022	5,817,000	Distillate-Untreated			
053A	T	R	F	1953	03-04-2022	5,758,200	Crude			
054A	T	R	F	1953	03-14-2022	5,758,200	Crude			
086A	T	R	F	Unknown	03-10-2022	6,346,200	Crude			

B. UNDERGROUND TANKS. List all new tanks. If amending information, list only those tanks being amended. Copy this page if more lines are needed.

Tank#	Prev Status	New Status	Type	Install Date (Mo/Day/Yr)	Change of Status Date (Mo/Day/Yr)	Capacity (Gallons)	Substance Code (Currently or Last Stored)	CERCLA Name (If Hazardous Substance) Substance Name (If Other Petroleum Substance or Petroleum Based Mixture)	CAS# (If Hazardous Substance)	Exempt Reference Code

Facility ID# Facility Name

VII. ABOVEGROUND & UNDERGROUND NEW TANK INSTALLATION INFORMATION

The DEP Certified Installer should complete this section. New tanks listed in Section VI must also be listed in this Section. Write the Tank Number(s) and place an ☒ in the appropriate box for each component that was installed.

Tank Construction & Corrosion Protection (1)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Tank Manufacturer:						
Model:						
A. Unprotected Steel (Single Wall)	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Steel (Galvanic)	☐	☐	☐	☐	☐	☐
C. Cathodically Protected Steel (Impressed Current)	☐	☐	☐	☐	☐	☐
D. Unprotected Steel (Double Wall)	☐	☐	☐	☐	☐	☐
E. Fiberglass (Single Wall)	☐	☐	☐	☐	☐	☐
F. Fiberglass (Double Wall)	☐	☐	☐	☐	☐	☐
G. Steel w/Plastic or Fiberglass Jacket or Double Wall Act 100	☐	☐	☐	☐	☐	☐
H. Steel With FRP Coating (Act 100 or Equivalent)	☐	☐	☐	☐	☐	☐
I. Steel with Lined Interior	☐	☐	☐	☐	☐	☐
J. Concrete	☐	☐	☐	☐	☐	☐
O. Cathodically Protected Double Wall Steel (Galvanic)	☐	☐	☐	☐	☐	☐
P. Cathodically Protected Steel with Liner	☐	☐	☐	☐	☐	☐
Q. Double Bottom (ASTs Only)	☐	☐	☐	☐	☐	☐
R. Molded Plastic Form (ASTs Only)	☐	☐	☐	☐	☐	☐
S. Stainless Steel	☐	☐	☐	☐	☐	☐
T. Aluminum	☐	☐	☐	☐	☐	☐
U. Fire Protected Double Wall AST	☐	☐	☐	☐	☐	☐
V. Steel with Plastic or Fiberglass Jacket or Double Wall Act 100 with Anodes	☐	☐	☐	☐	☐	☐
W. Steel with FRP Coating (Act 100 or Equivalent) with Anodes	☐	☐	☐	☐	☐	☐
X. Molded Plastic Form (Double Wall) (AST's Only)	☐	☐	☐	☐	☐	☐

Facility ID# Facility Name

Underground Piping Construction & Corrosion Protection – Single/Inner Wall (28)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Primary (Inner) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Underground Piping Construction & Corrosion Protection – Outer Wall (29)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
Secondary (Outer) Piping Manufacturer:						
Model:						
A. Bare Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
D. Fiberglass	☐	☐	☐	☐	☐	☐
E. Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
G. No Dispensing Piping	☐	☐	☐	☐	☐	☐
L. Poly-encased Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Facility ID# Facility Name

Aboveground Piping Construction & Corrosion Protection (3)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Carbon Steel	☐	☐	☐	☐	☐	☐
B. Cathodically Protected Metallic	☐	☐	☐	☐	☐	☐
C. Copper	☐	☐	☐	☐	☐	☐
D. Single Wall Fiberglass	☐	☐	☐	☐	☐	☐
E. Single Wall Flexible (Non-Metallic)	☐	☐	☐	☐	☐	☐
F. PVC	☐	☐	☐	☐	☐	☐
G. None	☐	☐	☐	☐	☐	☐
I. Double Wall - Metallic Primary	☐	☐	☐	☐	☐	☐
J. Double Wall - Rigid (FRP) Primary	☐	☐	☐	☐	☐	☐
K. Double Wall - Flexible Primary	☐	☐	☐	☐	☐	☐
L. Stainless Steel	☐	☐	☐	☐	☐	☐
99. Other: _____	☐	☐	☐	☐	☐	☐

Product Delivery System (4)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Suction: Check valve at pump	☐	☐	☐	☐	☐	☐
B. Suction: Check valve at tank	☐	☐	☐	☐	☐	☐
C. Pressure	☐	☐	☐	☐	☐	☐
D. Gravity fed	☐	☐	☐	☐	☐	☐
E. None	☐	☐	☐	☐	☐	☐

Spill Prevention (6)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
S. Permanently installed and liquid tight (single-walled)	☐	☐	☐	☐	☐	☐
D. Permanently installed and liquid tight (double-walled)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐

Facility ID# Facility Name

Overfill Prevention (7)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Overfill alarm	☐	☐	☐	☐	☐	☐
E. Fill in less than 25 gallons (exempt)	☐	☐	☐	☐	☐	☐
N. None (AST only)	☐	☐	☐	☐	☐	☐
S. Drop tube shutoff device	☐	☐	☐	☐	☐	☐
Y. Yes (AST only) Type: _____	☐	☐	☐	☐	☐	☐

Emergency Containment (16) ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes (includes double-walled tanks with required appurtenances)	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Secondary Containment (17) Single Wall ASTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No - Explain: _____	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐
V. Underground vault	☐	☐	☐	☐	☐	☐

Stage I Vapor Recovery (19) USTs and ASTs when applicable	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
A. Coaxial	☐	☐	☐	☐	☐	☐
B. 2 Point	☐	☐	☐	☐	☐	☐
N. None or incomplete	☐	☐	☐	☐	☐	☐

Facility ID# Facility Name

Tank-top Containment Sumps Present (Product Piping Only) (21) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some penetrations and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. At all penetrations and liquid tight	☐	☐	☐	☐	☐	☐

Under-dispenser Containment Present (22) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. None – Explain: _____	☐	☐	☐	☐	☐	☐
S. At some dispensers and liquid tight – Explain: _____	☐	☐	☐	☐	☐	☐
A. Under all dispensers and liquid tight	☐	☐	☐	☐	☐	☐

Line Leak Detector Shuts Off Pump (23) USTs only	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Tank Supplies Emergency Generator (25)	Tank #	Tank #	Tank #	Tank #	Tank #	Tank #
N. No	☐	☐	☐	☐	☐	☐
Y. Yes	☐	☐	☐	☐	☐	☐

Facility ID# Facility Name

VIII. ABOVEGROUND & UNDERGROUND TANK INFORMATION FOR PERMANENT CLOSURE

Write the Tank Number(s) and place an ☒ in the appropriate box for each tank that was removed or closed in place.

Items 2 & 3 below apply to large ASTs and all USTs	Tank # 034A	Tank # 010A	Tank # 052A	Tank # 053A	Tank # 054A	Tank # 086A
1. Contamination suspected or observed and notification of contamination form was submitted to the appropriate DEP regional office.	☐	☐	☐	☐	☐	☐
2. Closure document submitted to the appropriate DEP regional office.	☒	☒	☒	☒	☒	☒
3. Closure document kept on file by owner.	☒	☒	☒	☒	☒	☒

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. This registration is conditioned upon compliance with provisions of the Storage Tank and Spill Prevention Act of 1989, all applicable regulations, and with the requirements for obtaining and maintaining a permit required under this Act. I certify my responsibility for assuring the following permit requirements:

- Storage tank systems are in compliance with applicable administrative, technical and operational requirements as specified in Subchapter E for underground tanks or Subchapter F or G for aboveground tanks.
- Tank handling and inspection activities are performed by an individual possessing DEP certification in the appropriate category as required in Subchapters A and B.
- Underground storage tanks meet the applicable financial responsibility requirements of Subchapter H (relating to financial responsibility requirements).
- A Spill Prevention Response (SPR) Plan must be submitted to the appropriate DEP regional office for facilities that have aboveground storage tanks where the total capacity of all aboveground tanks is greater than 21,000 gallons.
- Other state and local permits required for operation of the tank system have been attained.

My signature represents to the Department that I own the storage tank(s) and am aware of the responsibilities and potential liabilities as an "owner" arising under the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I am also advised that statements made on this registration is made subject to the penalties of 18 PA. C.S.A. Section 4904 relating to unsworn falsification to authorities.

Type or Print Owner Name : Gary Bowman

Owner Signature	Title	Date
	President	03-30-2022

Information & Invoices should be sent to:

- ☒ Tank Owner Contact
- ☒ Site Contact
- ☒ Facility Operator
- ☐ Other Responsible Party Identified Below

Organization Name or Registered Fictitious Name		Employer ID# (EIN)		Dun & Bradstreet ID#
NorthStar Contracting Group, Inc.				
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Bowman	Gary	P	Sr.	
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Mailing Address Line 1	**Mailing Address Line 2**			
2250 East Adams Ave.				
Address Last Line – City		**State**	**ZIP+4**	**Country**
Philadelphia		PA	19124	USA
Contact Title			**Phone**	**Ext.**
President			610-636-4574	
E-mail Address				
gbowman@northstar.com				
Client to Site (Facility) Relationship				

X. INSTALLER / REMOVER CERTIFICATION

This section must be completed by the certified tank handler(s) who is responsible for the installation or removal from service of the aboveground and underground storage tank systems listed in Section VI. Tank modification activity must be submitted on a "Tank Modification Report" form.

SIGNATURE & CERTIFICATION OF INSTALLER(S) / REMOVER(S)

As the certified tank handler responsible for the tank handling activities in the category or categories listed, I certify that all tank handling activities were conducted in compliance with the design, installation and operation standards of the Storage Tank and Spill Prevention Act of 1989 and all applicable regulations. I also certify, under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided therein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Installer/Remover Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Installer/Remover Signature	Date
034A	Brian Gerner	API 12C	5341	AFMX	1631		3/30/22
010A	Brian Gerner	API 12C	5341	AFMX	1631		3/30/22
052A	Brian Gerner	API 12C	5341	AFMX	1631		3/30/22
053A	Brian Gerner	API 12C	5341	AFMX	1631		3/30/22
054A	Brian Gerner	API 12C	5341	AFMX	1631		3/30/22
086A	Brian Gerner	API 12C	5341	AFMX	1631		3/30/22

XI. INSPECTOR CERTIFICATION

This section must be completed by the DEP Certified Tank Inspector(s) who is responsible for verifying the installation standards for field constructed tanks and aboveground tanks greater than 21,000 gallons listed in Section VI. (Type or Print legibly) A DEP Certified Inspector may also be responsible for inspecting existing ASTs which are entering regulated service for the first time with no tank handling activities.

SIGNATURE & CERTIFICATION OF INSPECTOR(S)

As the certified tank inspector responsible for verifying tank handling activities and construction standards, I certify that the tank(s) listed below are constructed to appropriate industry standards and, if applicable, to manufacturer's specifications; that the tank(s) have been tested as required by industry standards; and that the tank(s) meet or exceed applicable design and operating standards; and are in compliance with the requirements of the Storage Tank and Spill Prevention Act of 1989, and all applicable regulations. I also certify under penalty of law as provided in 18 PA C.S.A. 4904 (relating to unsworn falsification to authorities), that the information provided herein is true, accurate and complete to the best of my knowledge and belief.

Tank#	Inspector Name	Construction Standard	Individual Certification#	Certification Category	Company Certification#	Inspector Signature	Date

XII. SITE SPECIFIC INSTALLATION PERMIT NUMBER

If a site-specific permit was required for a new tank installation, write the tank number(s) and permit number(s) in the appropriate box.

Site-Specific Installation Permit	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#	Tank#

Appendix G

Laboratory Reports

ANALYTICAL REPORT

Lab Number:	L2141062
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.005.03
Report Date:	08/11/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2141062
Report Date: 08/11/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2141062-01	PB882-15-SS01	SOIL	PHILADELPHIA, PA	07/30/21 08:40	07/30/21
L2141062-02	PB882-17-SS01	SOIL	PHILADELPHIA, PA	07/30/21 09:00	07/30/21
L2141062-03	PB882-19-SS01	SOIL	PHILADELPHIA, PA	07/30/21 09:30	07/30/21
L2141062-04	PB882-18-SS01	SOIL	PHILADELPHIA, PA	07/30/21 10:30	07/30/21
L2141062-05	PB882-10-SS01	SOIL	PHILADELPHIA, PA	07/30/21 11:10	07/30/21
L2141062-06	PB882-14-SS01	SOIL	PHILADELPHIA, PA	07/30/21 11:20	07/30/21
L2141062-07	PB882-20-SS01	SOIL	PHILADELPHIA, PA	07/30/21 11:30	07/30/21
L2141062-08	PB882-16-SS01	SOIL	PHILADELPHIA, PA	07/30/21 11:40	07/30/21
L2141062-09	PB126-01-SS01	SOIL	PHILADELPHIA, PA	07/30/21 13:00	07/30/21
L2141062-10	PB126-02-SS01	SOIL	PHILADELPHIA, PA	07/30/21 13:35	07/30/21
L2141062-11	PB126-03-SS01	SOIL	PHILADELPHIA, PA	07/30/21 14:05	07/30/21
L2141062-12	PB126-04-SS01	SOIL	PHILADELPHIA, PA	07/30/21 14:15	07/30/21
L2141062-13	PB126-05-SS01	SOIL	PHILADELPHIA, PA	07/30/21 14:20	07/30/21
L2141062-14	PB126-06-SS01	SOIL	PHILADELPHIA, PA	07/30/21 14:30	07/30/21
L2141062-15	DUP-17	SOIL	PHILADELPHIA, PA	07/30/21 00:00	07/30/21
L2141062-16	FB-210730	WATER	PHILADELPHIA, PA	07/30/21 15:00	07/30/21
L2141062-17	TB-210730	WATER	PHILADELPHIA, PA	07/30/21 00:00	07/30/21

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2141062
Project Number:	200.00135.005.03	**Report Date:**	08/11/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2141062
Project Number:	200.00135.005.03	**Report Date:**	08/11/21

Case Narrative (continued)

Report Submission

August 11, 2021: This final report includes the results of all requested analyses.

August 10, 2021: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

The Metals analysis was subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

Volatile Organics

L2141062-05D, -10D, -13D, and -14D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

L2141062-08D and -08D2: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (199% and 136%, respectively) due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

The surrogate recovery for the following samples is outside the acceptance criteria for 4-bromofluorobenzene; however, the samples were not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report:

L2141062-05D: 177%

L2141062-06: 134%

L2141062-09: 149%

L2141062-10D: 199%

L2141062-13D: 186%

L2141062-14D: 222%

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2141062
Project Number:	200.00135.005.03	**Report Date:**	08/11/21

Case Narrative (continued)

Semivolatile Organics by SIM

L2141062-02D, -05D, and -14D: The sample has elevated detection limits due to the dilution required by the sample matrix.

L2141062-16: The Field Blank has results for pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, and benzo(ghi)perylene present above the reporting limits. The sample was verified as being labeled correctly by the laboratory and the previous analysis showed there was no potential for carry over.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 08/11/21

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-01
Client ID: PB882-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 08:40
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 02:25
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-02
Client ID: PB882-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 09:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 02:49
Analyst: JC
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00061	1
o-Xylene	ND		mg/kg	0.0011	0.00031	1
Xylenes, Total	ND		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-03
Client ID: PB882-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 09:30
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 03:14
Analyst: JC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-04
Client ID: PB882-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 10:30
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 03:39
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00061	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	124		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-05 D
Client ID: PB882-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 11:10
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 05:19
Analyst: JC
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.38	0.038	4
Benzene	ND		mg/kg	0.095	0.032	4
1,2-Dichloroethane	ND		mg/kg	0.19	0.049	4
Toluene	ND		mg/kg	0.19	0.10	4
1,2-Dibromoethane	ND		mg/kg	0.095	0.056	4
Ethylbenzene	ND		mg/kg	0.19	0.027	4
p/m-Xylene	ND		mg/kg	0.38	0.11	4
o-Xylene	ND		mg/kg	0.19	0.056	4
Xylenes, Total	ND		mg/kg	0.19	0.056	4
Isopropylbenzene	1.2		mg/kg	0.19	0.021	4
1,3,5-Trimethylbenzene	ND		mg/kg	0.38	0.037	4
1,2,4-Trimethylbenzene	ND		mg/kg	0.38	0.064	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	**177**	Q	70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-06
Client ID: PB882-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 11:20
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 04:04
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	0.0031		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	0.0050		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	0.0077		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	111		70-130
4-Bromofluorobenzene	**134**	Q	70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-07
Client ID: PB882-20-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 11:30
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 04:29
Analyst: JC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00021	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-08 D2
Client ID: PB882-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 11:40
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 09:46
Analyst: AJK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,4-Trimethylbenzene	64.		mg/kg	1.0	0.17	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	119		70-130
4-Bromofluorobenzene	**136**	Q	70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-08 D
Client ID: PB882-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 11:40
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 05:45
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.20	0.020	2
Benzene	ND		mg/kg	0.050	0.017	2
1,2-Dichloroethane	ND		mg/kg	0.10	0.026	2
Toluene	ND		mg/kg	0.10	0.054	2
1,2-Dibromoethane	ND		mg/kg	0.050	0.029	2
Ethylbenzene	17.		mg/kg	0.10	0.014	2
p/m-Xylene	32.		mg/kg	0.20	0.056	2
o-Xylene	7.2		mg/kg	0.10	0.029	2
Xylenes, Total	39.		mg/kg	0.10	0.029	2
Isopropylbenzene	6.4		mg/kg	0.10	0.011	2
1,3,5-Trimethylbenzene	18.		mg/kg	0.20	0.019	2
1,2,4-Trimethylbenzene	61.	E	mg/kg	0.20	0.034	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	124		70-130
4-Bromofluorobenzene	**199**	Q	70-130
Dibromofluoromethane	90		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-09
Client ID: PB126-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 13:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 04:53
Analyst: JC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	0.0014		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	0.00073	J	mg/kg	0.00098	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	0.00030	J	mg/kg	0.00098	0.00014	1
p/m-Xylene	0.0010	J	mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00029	1
Xylenes, Total	0.0010	J	mg/kg	0.00098	0.00029	1
Isopropylbenzene	0.022		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	127		70-130
4-Bromofluorobenzene	**149**	Q	70-130
Dibromofluoromethane	90		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-10 D
Client ID: PB126-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 13:35
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 10:12
Analyst: AJK
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.48	0.048	4
Benzene	ND		mg/kg	0.12	0.040	4
1,2-Dichloroethane	ND		mg/kg	0.24	0.061	4
Toluene	ND		mg/kg	0.24	0.13	4
1,2-Dibromoethane	ND		mg/kg	0.12	0.070	4
Ethylbenzene	0.053	J	mg/kg	0.24	0.034	4
p/m-Xylene	ND		mg/kg	0.48	0.13	4
o-Xylene	ND		mg/kg	0.24	0.069	4
Xylenes, Total	ND		mg/kg	0.24	0.069	4
Isopropylbenzene	9.6		mg/kg	0.24	0.026	4
1,3,5-Trimethylbenzene	ND		mg/kg	0.48	0.046	4
1,2,4-Trimethylbenzene	0.083	J	mg/kg	0.48	0.080	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	118		70-130
4-Bromofluorobenzene	**199**	Q	70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-11
Client ID: PB126-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 14:05
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 11:54
Analyst: AJK
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00020	1
Benzene	0.00029	J	mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00097	0.00025	1
Toluene	ND		mg/kg	0.00097	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00028	1
Ethylbenzene	ND		mg/kg	0.00097	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00097	0.00028	1
Xylenes, Total	ND		mg/kg	0.00097	0.00028	1
Isopropylbenzene	0.0076		mg/kg	0.00097	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	114		70-130
4-Bromofluorobenzene	123		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-12
Client ID: PB126-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/30/21 14:15
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 12:19
Analyst: AJK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00042	J	mg/kg	0.0020	0.00021	1
Benzene	0.0014		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	0.0070		mg/kg	0.0010	0.00014	1
p/m-Xylene	0.00091	J	mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	0.00091	J	mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.038		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	0.00084	J	mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	0.0042		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	120		70-130
4-Bromofluorobenzene	125		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-13 D
Client ID: PB126-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 14:20
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 11:04
Analyst: AJK
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.31	0.031	2
Benzene	ND		mg/kg	0.078	0.026	2
1,2-Dichloroethane	ND		mg/kg	0.16	0.040	2
Toluene	ND		mg/kg	0.16	0.085	2
1,2-Dibromoethane	ND		mg/kg	0.078	0.046	2
Ethylbenzene	0.085	J	mg/kg	0.16	0.022	2
p/m-Xylene	0.13	J	mg/kg	0.31	0.088	2
o-Xylene	ND		mg/kg	0.16	0.046	2
Xylenes, Total	0.13	J	mg/kg	0.16	0.046	2
Isopropylbenzene	3.8		mg/kg	0.16	0.017	2
1,3,5-Trimethylbenzene	ND		mg/kg	0.31	0.030	2
1,2,4-Trimethylbenzene	0.16	J	mg/kg	0.31	0.052	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	111		70-130
4-Bromofluorobenzene	**186**	Q	70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-14 D
Client ID: PB126-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 14:30
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 10:38
Analyst: AJK
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.91	0.091	4
Benzene	0.27		mg/kg	0.23	0.075	4
1,2-Dichloroethane	ND		mg/kg	0.45	0.12	4
Toluene	ND		mg/kg	0.45	0.25	4
1,2-Dibromoethane	ND		mg/kg	0.23	0.13	4
Ethylbenzene	0.58		mg/kg	0.45	0.064	4
p/m-Xylene	0.80	J	mg/kg	0.91	0.25	4
o-Xylene	ND		mg/kg	0.45	0.13	4
Xylenes, Total	0.80	J	mg/kg	0.45	0.13	4
Isopropylbenzene	27.		mg/kg	0.45	0.049	4
1,3,5-Trimethylbenzene	ND		mg/kg	0.91	0.087	4
1,2,4-Trimethylbenzene	0.61	J	mg/kg	0.91	0.15	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	113		70-130
4-Bromofluorobenzene	**222**	Q	70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-15
Client ID: DUP-17
Sample Location: PHILADELPHIA, PA
Date Collected: 07/30/21 00:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/05/21 12:44
Analyst: AJK
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0047	0.00047	1
Benzene	ND		mg/kg	0.0012	0.00039	1
1,2-Dichloroethane	ND		mg/kg	0.0023	0.00060	1
Toluene	ND		mg/kg	0.0023	0.0013	1
1,2-Dibromoethane	ND		mg/kg	0.0012	0.00069	1
Ethylbenzene	ND		mg/kg	0.0023	0.00033	1
p/m-Xylene	ND		mg/kg	0.0047	0.0013	1
o-Xylene	ND		mg/kg	0.0023	0.00068	1
Xylenes, Total	ND		mg/kg	0.0023	0.00068	1
Isopropylbenzene	ND		mg/kg	0.0023	0.00026	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0047	0.00045	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0047	0.00078	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-16
Client ID: FB-210730
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 15:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 08/04/21 14:46
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 08/04/21 13:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-16
Client ID: FB-210730
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 15:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 08/03/21 17:32
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	87		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-17
Client ID: TB-210730
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 00:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 08/04/21 14:52
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 08/04/21 13:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-17
Client ID: TB-210730
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 00:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 08/03/21 17:53
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	86		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 08/04/21 14:21
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 08/04/21 13:04

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 16-17 Batch: WG1531419-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2141062

Project Number: 200.00135.005.03 **Report Date:** 08/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/03/21 17:12
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 16-17 Batch: WG1531532-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2141062

Project Number: 200.00135.005.03 **Report Date:** 08/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/04/21 21:20
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-04,06-07,09 Batch: WG1531904-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/05/21 09:21
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 08,10,13-14 Batch: WG1531906-10					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/04/21 21:20
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 05,08 Batch: WG1531906-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/05/21 09:21
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 11-12,15 Batch: WG1532117-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2141062

Report Date: 08/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 16-17 Batch: WG1531419-2								
1,2-Dibromoethane	105		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2141062

Report Date: 08/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16-17 Batch: WG1531532-3 WG1531532-4								
Methyl tert butyl ether	76		78		63-130	3		20
Benzene	86		90		70-130	5		20
1,2-Dichloroethane	81		83		70-130	2		20
Toluene	88		90		70-130	2		20
Ethylbenzene	88		91		70-130	3		20
p/m-Xylene	90		90		70-130	0		20
o-Xylene	85		90		70-130	6		20
Isopropylbenzene	88		90		70-130	2		20
1,3,5-Trimethylbenzene	89		89		64-130	0		20
1,2,4-Trimethylbenzene	90		88		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	86		87		70-130
Toluene-d8	94		92		70-130
4-Bromofluorobenzene	90		90		70-130
Dibromofluoromethane	93		95		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-04,06-07,09 Batch: WG1531904-3 WG1531904-4								
Methyl tert butyl ether	93		93		66-130	0		30
Benzene	86		83		70-130	4		30
1,2-Dichloroethane	88		87		70-130	1		30
Toluene	92		90		70-130	2		30
1,2-Dibromoethane	87		88		70-130	1		30
Ethylbenzene	99		96		70-130	3		30
p/m-Xylene	92		89		70-130	3		30
o-Xylene	92		90		70-130	2		30
Isopropylbenzene	108		105		70-130	3		30
1,3,5-Trimethylbenzene	108		105		70-130	3		30
1,2,4-Trimethylbenzene	109		107		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		100		70-130
Toluene-d8	109		109		70-130
4-Bromofluorobenzene	118		117		70-130
Dibromofluoromethane	95		95		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2141062

Report Date: 08/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 05,08 Batch: WG1531906-3 WG1531906-4								
Methyl tert butyl ether	93		93		66-130	0		30
Benzene	86		83		70-130	4		30
1,2-Dichloroethane	88		87		70-130	1		30
Toluene	92		90		70-130	2		30
1,2-Dibromoethane	87		88		70-130	1		30
Ethylbenzene	99		96		70-130	3		30
p/m-Xylene	92		89		70-130	3		30
o-Xylene	92		90		70-130	2		30
Isopropylbenzene	108		105		70-130	3		30
1,3,5-Trimethylbenzene	108		105		70-130	3		30
1,2,4-Trimethylbenzene	109		107		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		100		70-130
Toluene-d8	108		109		70-130
4-Bromofluorobenzene	118		117		70-130
Dibromofluoromethane	95		95		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2141062

Report Date: 08/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 08,10,13-14 Batch: WG1531906-8 WG1531906-9								
Methyl tert butyl ether	98		97		66-130	1		30
Benzene	87		85		70-130	2		30
1,2-Dichloroethane	92		92		70-130	0		30
Toluene	96		92		70-130	4		30
1,2-Dibromoethane	89		88		70-130	1		30
Ethylbenzene	103		99		70-130	4		30
p/m-Xylene	96		91		70-130	5		30
o-Xylene	96		91		70-130	5		30
Isopropylbenzene	113		108		70-130	5		30
1,3,5-Trimethylbenzene	112		108		70-130	4		30
1,2,4-Trimethylbenzene	112		109		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		103		70-130
Toluene-d8	111		107		70-130
4-Bromofluorobenzene	115		114		70-130
Dibromofluoromethane	94		96		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2141062

Report Date: 08/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 11-12,15 Batch: WG1532117-3 WG1532117-4								
Methyl tert butyl ether	98		97		66-130	1		30
Benzene	87		85		70-130	2		30
1,2-Dichloroethane	92		92		70-130	0		30
Toluene	96		92		70-130	4		30
1,2-Dibromoethane	89		88		70-130	1		30
Ethylbenzene	103		99		70-130	4		30
p/m-Xylene	96		91		70-130	5		30
o-Xylene	96		91		70-130	5		30
Isopropylbenzene	113		108		70-130	5		30
1,3,5-Trimethylbenzene	112		108		70-130	4		30
1,2,4-Trimethylbenzene	112		109		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		103		70-130
Toluene-d8	111		107		70-130
4-Bromofluorobenzene	115		114		70-130
Dibromofluoromethane	94		96		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-01
Client ID: PB882-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 08:40
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 12:59
Analyst: JJW
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.0094		mg/kg	0.0080	0.0014	1
Fluorene	0.015		mg/kg	0.0080	0.00096	1
Phenanthrene	0.079		mg/kg	0.0080	0.00068	1
Anthracene	0.024		mg/kg	0.0080	0.00064	1
Pyrene	0.047		mg/kg	0.0080	0.00056	1
Benzo(a)anthracene	0.030		mg/kg	0.0080	0.00076	1
Chrysene	0.023		mg/kg	0.0080	0.00060	1
Benzo(b)fluoranthene	0.024		mg/kg	0.0080	0.00076	1
Benzo(a)pyrene	0.019		mg/kg	0.0080	0.00096	1
Benzo(ghi)perylene	0.0076	J	mg/kg	0.0080	0.00068	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	61		23-120
2-Fluorobiphenyl	54		30-120
4-Terphenyl-d14	57		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-02 D
Client ID: PB882-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 09:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 13:41
Analyst: JJW
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.0096	J	mg/kg	0.014	0.0026	2
Fluorene	0.088		mg/kg	0.014	0.0017	2
Phenanthrene	0.11		mg/kg	0.014	0.0012	2
Anthracene	ND		mg/kg	0.014	0.0012	2
Pyrene	0.0089	J	mg/kg	0.014	0.0010	2
Benzo(a)anthracene	0.0069	J	mg/kg	0.014	0.0014	2
Chrysene	0.028		mg/kg	0.014	0.0011	2
Benzo(b)fluoranthene	0.0048	J	mg/kg	0.014	0.0014	2
Benzo(a)pyrene	0.0020	J	mg/kg	0.014	0.0017	2
Benzo(ghi)perylene	0.0020	J	mg/kg	0.014	0.0012	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	96		23-120
2-Fluorobiphenyl	93		30-120
4-Terphenyl-d14	111		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-03
Client ID: PB882-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 09:30
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/05/21 19:37
Analyst: DV
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0082	0.0015	1
Fluorene	ND		mg/kg	0.0082	0.00098	1
Phenanthrene	0.0014	J	mg/kg	0.0082	0.00070	1
Anthracene	ND		mg/kg	0.0082	0.00065	1
Pyrene	ND		mg/kg	0.0082	0.00057	1
Benzo(a)anthracene	ND		mg/kg	0.0082	0.00078	1
Chrysene	ND		mg/kg	0.0082	0.00061	1
Benzo(b)fluoranthene	ND		mg/kg	0.0082	0.00078	1
Benzo(a)pyrene	ND		mg/kg	0.0082	0.00098	1
Benzo(ghi)perylene	ND		mg/kg	0.0082	0.00070	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**126**	Q	23-120
2-Fluorobiphenyl	104		30-120
4-Terphenyl-d14	**128**	Q	18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-04
Client ID: PB882-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 10:30
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/05/21 19:53
Analyst: DV
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0079	0.0014	1
Fluorene	ND		mg/kg	0.0079	0.00094	1
Phenanthrene	0.0041	J	mg/kg	0.0079	0.00067	1
Anthracene	0.00075	J	mg/kg	0.0079	0.00063	1
Pyrene	0.0020	J	mg/kg	0.0079	0.00055	1
Benzo(a)anthracene	ND		mg/kg	0.0079	0.00075	1
Chrysene	ND		mg/kg	0.0079	0.00059	1
Benzo(b)fluoranthene	ND		mg/kg	0.0079	0.00075	1
Benzo(a)pyrene	ND		mg/kg	0.0079	0.00094	1
Benzo(ghi)perylene	ND		mg/kg	0.0079	0.00067	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**134**	Q	23-120
2-Fluorobiphenyl	108		30-120
4-Terphenyl-d14	**142**	Q	18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-05 D
Client ID: PB882-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 11:10
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/08/21 20:58
Analyst: RP
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.16		mg/kg	0.036	0.0065	5
Fluorene	0.57		mg/kg	0.036	0.0043	5
Phenanthrene	1.4		mg/kg	0.036	0.0031	5
Anthracene	0.068		mg/kg	0.036	0.0029	5
Pyrene	0.083		mg/kg	0.036	0.0025	5
Benzo(a)anthracene	0.022	J	mg/kg	0.036	0.0034	5
Chrysene	0.27		mg/kg	0.036	0.0027	5
Benzo(b)fluoranthene	0.028	J	mg/kg	0.036	0.0034	5
Benzo(a)pyrene	0.014	J	mg/kg	0.036	0.0043	5
Benzo(ghi)perylene	0.018	J	mg/kg	0.036	0.0031	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**179**	Q	23-120
2-Fluorobiphenyl	109		30-120
4-Terphenyl-d14	118		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-06 D
Client ID: PB882-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 11:20
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/10/21 13:49
Analyst: JJW
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.13		mg/kg	0.016	0.0029	2
Fluorene	0.29		mg/kg	0.016	0.0019	2
Phenanthrene	0.84		mg/kg	0.016	0.0014	2
Anthracene	ND		mg/kg	0.016	0.0013	2
Pyrene	0.050		mg/kg	0.016	0.0011	2
Benzo(a)anthracene	0.035		mg/kg	0.016	0.0015	2
Chrysene	0.16		mg/kg	0.016	0.0012	2
Benzo(b)fluoranthene	0.020		mg/kg	0.016	0.0015	2
Benzo(a)pyrene	0.018		mg/kg	0.016	0.0019	2
Benzo(ghi)perylene	0.0097	J	mg/kg	0.016	0.0014	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**168**	Q	23-120
2-Fluorobiphenyl	99		30-120
4-Terphenyl-d14	114		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-07 D
Client ID: PB882-20-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 11:30
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 14:29
Analyst: JJW
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.062		mg/kg	0.016	0.0028	2
Fluorene	0.46		mg/kg	0.016	0.0019	2
Phenanthrene	1.2		mg/kg	0.016	0.0013	2
Anthracene	ND		mg/kg	0.016	0.0013	2
Pyrene	0.14		mg/kg	0.016	0.0011	2
Benzo(a)anthracene	0.076		mg/kg	0.016	0.0015	2
Chrysene	0.42		mg/kg	0.016	0.0012	2
Benzo(b)fluoranthene	0.074		mg/kg	0.016	0.0015	2
Benzo(a)pyrene	0.040		mg/kg	0.016	0.0019	2
Benzo(ghi)perylene	0.038		mg/kg	0.016	0.0013	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	113		23-120
2-Fluorobiphenyl	85		30-120
4-Terphenyl-d14	95		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-08 D
Client ID: PB882-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 11:40
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/10/21 13:32
Analyst: JJW
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	4.2		mg/kg	0.077	0.014	10
Fluorene	0.78		mg/kg	0.077	0.0092	10
Phenanthrene	2.3		mg/kg	0.077	0.0065	10
Anthracene	ND		mg/kg	0.077	0.0062	10
Pyrene	0.16		mg/kg	0.077	0.0054	10
Benzo(a)anthracene	0.070	J	mg/kg	0.077	0.0073	10
Chrysene	0.44		mg/kg	0.077	0.0058	10
Benzo(b)fluoranthene	0.047	J	mg/kg	0.077	0.0073	10
Benzo(a)pyrene	0.036	J	mg/kg	0.077	0.0092	10
Benzo(ghi)perylene	0.035	J	mg/kg	0.077	0.0065	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**188**	Q	23-120
2-Fluorobiphenyl	92		30-120
4-Terphenyl-d14	107		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-09
Client ID: PB126-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 13:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/05/21 20:10
Analyst: DV
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0080	0.0014	1
Fluorene	0.0011	J	mg/kg	0.0080	0.00096	1
Phenanthrene	0.0016	J	mg/kg	0.0080	0.00068	1
Anthracene	ND		mg/kg	0.0080	0.00064	1
Pyrene	ND		mg/kg	0.0080	0.00056	1
Benzo(a)anthracene	ND		mg/kg	0.0080	0.00076	1
Chrysene	ND		mg/kg	0.0080	0.00060	1
Benzo(b)fluoranthene	ND		mg/kg	0.0080	0.00076	1
Benzo(a)pyrene	ND		mg/kg	0.0080	0.00096	1
Benzo(ghi)perylene	ND		mg/kg	0.0080	0.00068	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**123**	Q	23-120
2-Fluorobiphenyl	101		30-120
4-Terphenyl-d14	**136**	Q	18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-10
Client ID: PB126-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 13:35
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/05/21 20:26
Analyst: DV
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0079	0.0014	1
Fluorene	0.0046	J	mg/kg	0.0079	0.00095	1
Phenanthrene	0.019		mg/kg	0.0079	0.00067	1
Anthracene	0.0044	J	mg/kg	0.0079	0.00063	1
Pyrene	0.016		mg/kg	0.0079	0.00056	1
Benzo(a)anthracene	0.0073	J	mg/kg	0.0079	0.00075	1
Chrysene	0.0040	J	mg/kg	0.0079	0.00059	1
Benzo(b)fluoranthene	0.0045	J	mg/kg	0.0079	0.00075	1
Benzo(a)pyrene	0.0028	J	mg/kg	0.0079	0.00095	1
Benzo(ghi)perylene	0.00079	J	mg/kg	0.0079	0.00067	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	62		23-120
2-Fluorobiphenyl	51		30-120
4-Terphenyl-d14	71		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-11
Client ID: PB126-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 14:05
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/05/21 20:43
Analyst: DV
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		mg/kg	0.0080	0.0014	1
Fluorene	ND		mg/kg	0.0080	0.00096	1
Phenanthrene	0.0017	J	mg/kg	0.0080	0.00068	1
Anthracene	ND		mg/kg	0.0080	0.00064	1
Pyrene	0.0013	J	mg/kg	0.0080	0.00056	1
Benzo(a)anthracene	0.00088	J	mg/kg	0.0080	0.00076	1
Chrysene	ND		mg/kg	0.0080	0.00060	1
Benzo(b)fluoranthene	ND		mg/kg	0.0080	0.00076	1
Benzo(a)pyrene	ND		mg/kg	0.0080	0.00096	1
Benzo(ghi)perylene	ND		mg/kg	0.0080	0.00068	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	119		23-120
2-Fluorobiphenyl	100		30-120
4-Terphenyl-d14	**127**	Q	18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-12
Client ID: PB126-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 14:15
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 15:02
Analyst: JJW
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.0014	J	mg/kg	0.0079	0.0014	1
Fluorene	ND		mg/kg	0.0079	0.00095	1
Phenanthrene	0.0017	J	mg/kg	0.0079	0.00067	1
Anthracene	ND		mg/kg	0.0079	0.00063	1
Pyrene	0.0020	J	mg/kg	0.0079	0.00055	1
Benzo(a)anthracene	0.0013	J	mg/kg	0.0079	0.00075	1
Chrysene	0.00079	J	mg/kg	0.0079	0.00059	1
Benzo(b)fluoranthene	ND		mg/kg	0.0079	0.00075	1
Benzo(a)pyrene	ND		mg/kg	0.0079	0.00095	1
Benzo(ghi)perylene	ND		mg/kg	0.0079	0.00067	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	93		30-120
4-Terphenyl-d14	114		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-13
Client ID: PB126-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 14:20
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 15:18
Analyst: JJW
Percent Solids: 77%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.044		mg/kg	0.0085	0.0015	1
Fluorene	0.013		mg/kg	0.0085	0.0010	1
Phenanthrene	0.076		mg/kg	0.0085	0.00072	1
Anthracene	0.023		mg/kg	0.0085	0.00068	1
Pyrene	0.072		mg/kg	0.0085	0.00060	1
Benzo(a)anthracene	0.044		mg/kg	0.0085	0.00081	1
Chrysene	0.037		mg/kg	0.0085	0.00064	1
Benzo(b)fluoranthene	0.044		mg/kg	0.0085	0.00081	1
Benzo(a)pyrene	0.033		mg/kg	0.0085	0.0010	1
Benzo(ghi)perylene	0.014		mg/kg	0.0085	0.00072	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	106		23-120
2-Fluorobiphenyl	93		30-120
4-Terphenyl-d14	108		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-14 D
Client ID: PB126-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 14:30
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 15:35
Analyst: JJW
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	1.4		mg/kg	0.039	0.0070	5
Fluorene	1.7		mg/kg	0.039	0.0046	5
Phenanthrene	1.9		mg/kg	0.039	0.0033	5
Anthracene	ND		mg/kg	0.039	0.0031	5
Pyrene	0.17		mg/kg	0.039	0.0027	5
Benzo(a)anthracene	0.062		mg/kg	0.039	0.0037	5
Chrysene	0.10		mg/kg	0.039	0.0029	5
Benzo(b)fluoranthene	0.10		mg/kg	0.039	0.0037	5
Benzo(a)pyrene	0.062		mg/kg	0.039	0.0046	5
Benzo(ghi)perylene	0.087		mg/kg	0.039	0.0033	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**339**	Q	23-120
2-Fluorobiphenyl	86		30-120
4-Terphenyl-d14	112		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-15
Client ID: DUP-17
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 00:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 15:51
Analyst: JJW
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.0052	J	mg/kg	0.0082	0.0015	1
Fluorene	0.0037	J	mg/kg	0.0082	0.00098	1
Phenanthrene	0.053		mg/kg	0.0082	0.00070	1
Anthracene	0.014		mg/kg	0.0082	0.00066	1
Pyrene	0.11		mg/kg	0.0082	0.00057	1
Benzo(a)anthracene	0.092		mg/kg	0.0082	0.00078	1
Chrysene	0.080		mg/kg	0.0082	0.00061	1
Benzo(b)fluoranthene	0.11		mg/kg	0.0082	0.00078	1
Benzo(a)pyrene	0.085		mg/kg	0.0082	0.00098	1
Benzo(ghi)perylene	0.045		mg/kg	0.0082	0.00070	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	103		23-120
2-Fluorobiphenyl	99		30-120
4-Terphenyl-d14	114		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2141062
Project Number: 200.00135.005.03
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-16
Client ID: FB-210730
Sample Location: PHILADELPHIA, PA

Date Collected: 07/30/21 15:00
Date Received: 07/30/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/21 17:29
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 08/04/21 08:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	0.03	J	ug/l	0.05	0.02	1
Anthracene	0.02	J	ug/l	0.10	0.01	1
Pyrene	0.18		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.12		ug/l	0.05	0.02	1
Chrysene	0.13		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	0.19		ug/l	0.05	0.01	1
Benzo(a)pyrene	0.11		ug/l	0.10	0.02	1
Benzo(ghi)perylene	0.13		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	67		15-120
4-Terphenyl-d14	96		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 08/05/21 19:04
Analyst: DV

Extraction Method: EPA 3546
Extraction Date: 08/04/21 03:14

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-15 Batch: WG1531206-1					
Naphthalene	ND		mg/kg	0.0066	0.0012
Fluorene	ND		mg/kg	0.0066	0.00080
Phenanthrene	ND		mg/kg	0.0066	0.00056
Anthracene	ND		mg/kg	0.0066	0.00053
Pyrene	ND		mg/kg	0.0066	0.00046
Benzo(a)anthracene	ND		mg/kg	0.0066	0.00063
Chrysene	ND		mg/kg	0.0066	0.00050
Benzo(b)fluoranthene	ND		mg/kg	0.0066	0.00063
Benzo(a)pyrene	ND		mg/kg	0.0066	0.00080
Benzo(ghi)perylene	ND		mg/kg	0.0066	0.00056

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	**130**	Q	25-120
Phenol-d6	**147**	Q	10-120
Nitrobenzene-d5	**142**	Q	23-120
2-Fluorobiphenyl	118		30-120
2,4,6-Tribromophenol	**201**	Q	10-136
4-Terphenyl-d14	**152**	Q	18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 08/04/21 14:56
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 08/04/21 04:40

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 16 Batch: WG1531233-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	73		21-120
Phenol-d6	64		10-120
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	86		15-120
2,4,6-Tribromophenol	86		10-120
4-Terphenyl-d14	89		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-15 Batch: WG1531206-2 WG1531206-3								
Naphthalene	61		57		40-140	7		50
Fluorene	62		57		40-140	8		50
Phenanthrene	60		55		40-140	9		50
Anthracene	64		59		40-140	8		50
Pyrene	62		57		35-142	8		50
Benzo(a)anthracene	64		58		40-140	10		50
Chrysene	56		52		40-140	7		50
Benzo(b)fluoranthene	62		55		40-140	12		50
Benzo(a)pyrene	66		60		40-140	10		50
Benzo(ghi)perylene	59		54		40-140	9		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	66		62		25-120
Phenol-d6	68		64		10-120
Nitrobenzene-d5	70		65		23-120
2-Fluorobiphenyl	61		57		30-120
2,4,6-Tribromophenol	70		64		10-136
4-Terphenyl-d14	63		59		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2141062

Report Date: 08/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 16 Batch: WG1531233-2 WG1531233-3								
Naphthalene	79		76		40-140	4		40
Fluorene	83		80		40-140	4		40
Phenanthrene	82		77		40-140	6		40
Anthracene	84		78		40-140	7		40
Pyrene	85		77		26-127	10		40
Benzo(a)anthracene	78		74		40-140	5		40
Chrysene	83		78		40-140	6		40
Benzo(b)fluoranthene	85		79		40-140	7		40
Benzo(a)pyrene	88		81		40-140	8		40
Benzo(ghi)perylene	82		75		40-140	9		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	71		70		21-120
Phenol-d6	58		59		10-120
Nitrobenzene-d5	88		87		23-120
2-Fluorobiphenyl	81		80		15-120
2,4,6-Tribromophenol	88		84		10-120
4-Terphenyl-d14	91		85		41-149

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-01
Client ID: PB882-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/30/21 08:40
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.3		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-02
Client ID: PB882-17-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 09:00
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.4		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-03
Client ID: PB882-19-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 09:30
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.6		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-04
Client ID: PB882-18-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 10:30
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.1		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-05
Client ID: PB882-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 11:10
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.6		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-06
Client ID: PB882-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 11:20
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.5		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-07
Client ID: PB882-20-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 11:30
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.6		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-08
Client ID: PB882-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 11:40
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.9		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-09
Client ID: PB126-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 13:00
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.5		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-10
Client ID: PB126-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/30/21 13:35
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.7		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-11
Client ID: PB126-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/30/21 14:05
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.5		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-12
Client ID: PB126-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/30/21 14:15
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.5		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-13
Client ID: PB126-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 14:20
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	77.0		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-14
Client ID: PB126-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 14:30
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.7		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2141062
Report Date: 08/11/21

SAMPLE RESULTS

Lab ID: L2141062-15
Client ID: DUP-17
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/30/21 00:00
Date Received: 07/30/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.1		%	0.100	NA	1	-	07/31/21 11:11	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2141062

Report Date: 08/11/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-15 QC Batch ID: WG1530109-1 QC Sample: L2141062-01 Client ID: PB882-15-SS01						
Solids, Total	81.3	81.3	%	0		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2141062
Report Date: 08/11/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2141062-01A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2141062-01B	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-01C	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-01D	Plastic 120ml unpreserved	A	NA		5.4	Y	Absent		TS(7)
L2141062-01E	Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		SUB-TOTAL LEAD()
L2141062-01F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-8270SIM(14)
L2141062-02A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2141062-02B	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-02C	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-02D	Plastic 120ml unpreserved	A	NA		5.4	Y	Absent		TS(7)
L2141062-02E	Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		SUB-TOTAL LEAD()
L2141062-02F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-8270SIM(14)
L2141062-03A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2141062-03B	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-03C	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-03D	Plastic 120ml unpreserved	A	NA		5.4	Y	Absent		TS(7)
L2141062-03E	Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		SUB-TOTAL LEAD()
L2141062-03F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-8270SIM(14)
L2141062-04A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2141062-04B	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-04C	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-04D	Plastic 120ml unpreserved	A	NA		5.4	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2141062-04E	Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		SUB-TOTAL LEAD()
L2141062-04F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-8270SIM(14)
L2141062-05A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2141062-05B	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-05C	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-05D	Plastic 120ml unpreserved	A	NA		5.4	Y	Absent		TS(7)
L2141062-05E	Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		SUB-TOTAL LEAD()
L2141062-05F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-8270SIM(14)
L2141062-06A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2141062-06B	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-06C	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-06D	Plastic 120ml unpreserved	A	NA		5.4	Y	Absent		TS(7)
L2141062-06E	Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		SUB-TOTAL LEAD()
L2141062-06F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-8270SIM(14)
L2141062-07A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2141062-07B	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-07C	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-07D	Plastic 120ml unpreserved	A	NA		5.4	Y	Absent		TS(7)
L2141062-07E	Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		SUB-TOTAL LEAD()
L2141062-07F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-8270SIM(14)
L2141062-08A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2141062-08B	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-08C	Vial water preserved	A	NA		5.4	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-08D	Plastic 120ml unpreserved	A	NA		5.4	Y	Absent		TS(7)
L2141062-08E	Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		SUB-TOTAL LEAD()
L2141062-08F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-8270SIM(14)
L2141062-09A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2141062-09B	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2141062
Report Date: 08/11/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2141062-09C	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-09D	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2141062-09E	Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2141062-09F	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)
L2141062-10A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2141062-10B	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-10C	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-10D	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2141062-10E	Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2141062-10F	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)
L2141062-11A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2141062-11B	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-11C	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-11D	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2141062-11E	Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2141062-11F	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)
L2141062-12A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2141062-12B	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-12C	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-12D	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2141062-12E	Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2141062-12F	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)
L2141062-13A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2141062-13B	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-13C	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-13D	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2141062-13E	Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2141062-13F	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2141062
Report Date: 08/11/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2141062-14A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2141062-14B	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-14C	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-14D	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2141062-14E	Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2141062-14F	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)
L2141062-15A	Vial MeOH preserved	B	NA		3.2	Y	Absent		PA-8260HLW(14)
L2141062-15B	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-15C	Vial water preserved	B	NA		3.2	Y	Absent	31-JUL-21 05:20	PA-8260HLW(14)
L2141062-15D	Plastic 120ml unpreserved	B	NA		3.2	Y	Absent		TS(7)
L2141062-15E	Glass 60mL/2oz unpreserved	B	NA		3.2	Y	Absent		SUB-TOTAL LEAD()
L2141062-15F	Glass 120ml/4oz unpreserved	B	NA		3.2	Y	Absent		PA-8270SIM(14)
L2141062-16A	Vial HCl preserved	A	NA		5.4	Y	Absent		PA-8260(14)
L2141062-16B	Vial HCl preserved	A	NA		5.4	Y	Absent		PA-8260(14)
L2141062-16C	Vial HCl preserved	A	NA		5.4	Y	Absent		PA-8260(14)
L2141062-16D	Vial Na2S2O3 preserved	A	NA		5.4	Y	Absent		8011(14)
L2141062-16E	Vial Na2S2O3 preserved	A	NA		5.4	Y	Absent		8011(14)
L2141062-16F	Plastic 250ml HNO3 preserved	A	<2	<2	5.4	Y	Absent		SUB-TOTAL LEAD()
L2141062-16G	Amber 250ml unpreserved	A	7	7	5.4	Y	Absent		PA-8270SIM-LVI(7)
L2141062-16H	Amber 250ml unpreserved	A	7	7	5.4	Y	Absent		PA-8270SIM-LVI(7)
L2141062-17A	Vial HCl preserved	A	NA		5.4	Y	Absent		PA-8260(14)
L2141062-17B	Vial HCl preserved	A	NA		5.4	Y	Absent		PA-8260(14)
L2141062-17C	Vial Na2S2O3 preserved	A	NA		5.4	Y	Absent		8011(14)
L2141062-17D	Vial Na2S2O3 preserved	A	NA		5.4	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2141062
Project Number:	200.00135.005.03	**Report Date:**	08/11/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2141062
Project Number:	200.00135.005.03	**Report Date:**	08/11/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2141062
Project Number:	200.00135.005.03	**Report Date:**	08/11/21

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2141062
Project Number:	200.00135.005.03	**Report Date:**	08/11/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/31/21

ALPHA Job #: L 2141062

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist		Sample Specific Comments	Total # Bottles
41062-01	PB882-15-5501	7/30	0840	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-02	PB882-17-5501		0900			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-03	PB882-19-5501		0930			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-04	PB882-18-5501		1030			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-05	PB882-10-5501		1110			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-06	PB882-14-5501		1120			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-07	PB882-20-5501		1130			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-08	PB882-16-5501		1140			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-09	PB126-01-5501		1300			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-10	PB126-02-5501	V	1335	V	V	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
	Container Type	G	G	G	-	-	-	-	-	-	-	-	-						
	Preservative	F	A	A	-	-	-	-	-	-	-	-	-						

Relinquished By:	Date/Time	Received By:	Date/Time
	7/30 1515		7-30 1515
	7/30 1915		7/31/21 19:48
	7/31/21		7/31/21 02:35

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(HW) (rev. 9-JAN-13)

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/31/21

ALPHA Job #: L2141062

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.005.03

Project Manager: William Schmidt

ALPHA Quote #: 13161

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client Info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist		Sample Specific Comments	TOTAL # BOTTLES
41062-11	PB126-03-5501	7/30	1405	S	JS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		8
-12	PB126-04-5501		1415	S		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-13	PB126-05-5501		1420	S		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-14	PB126-06-5501		1430	S		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-15	DUP-17		-	S		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-16	FB-210730		1500	W		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-17	TB-210730		-	W		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
Container Type		G	G	G		-	-	-	-	-	-	-	-	-	-	-	-		
Preservative		F	A	A		-	-	-	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	7/30 1515	Tom Clark AAL	7-30 1515
Tom Clark AAL	7-30 21 19:15		7/31/21 18:0
	7/31/21	AAL	7/30/21 2200
AAL	7/31/21 0230		7/31/21 02:35

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-N2) (rev. 3-JAN-12)

PADEP Short List Analytical List:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

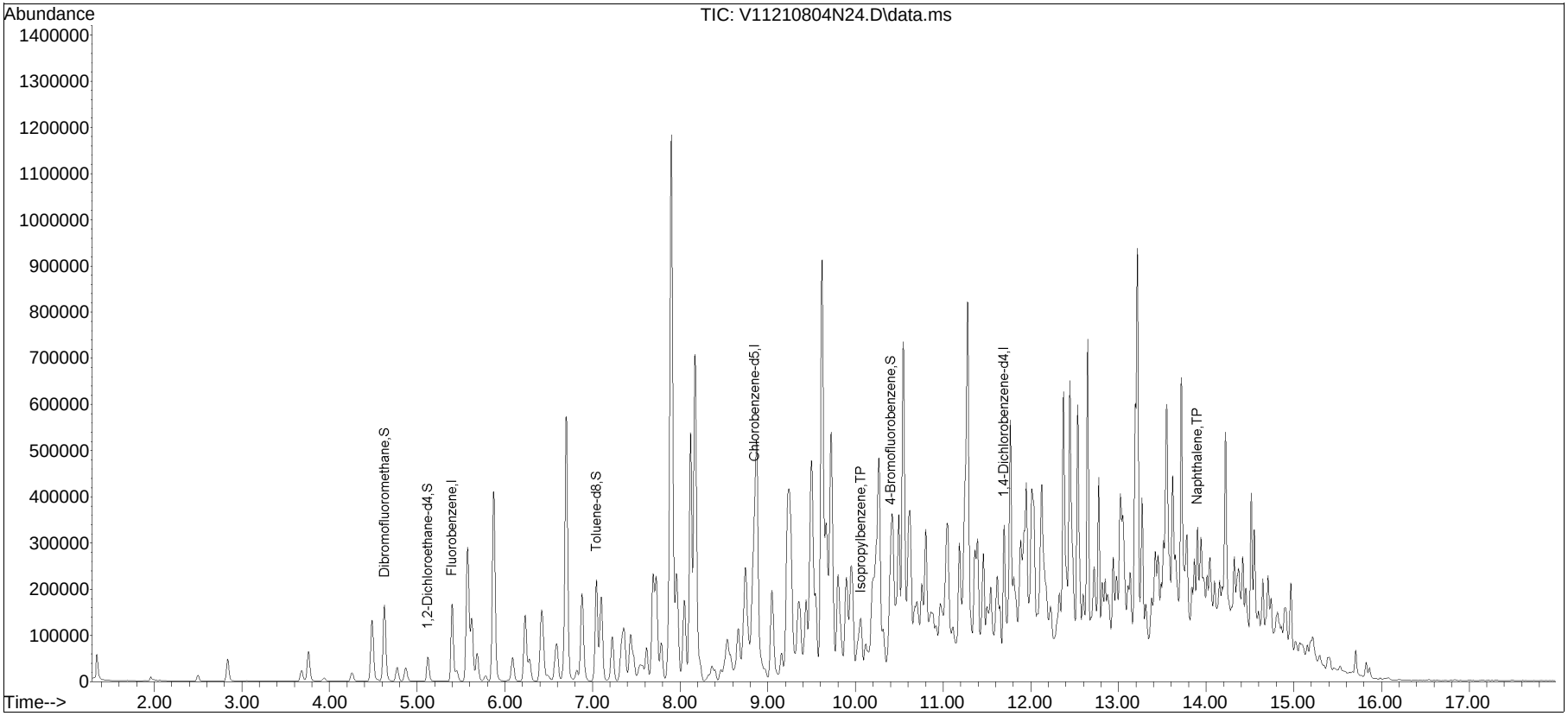
6. Waste Oil – benzene, toluene, ethyl benzene, cumene, naphthalene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, lead

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210804N\
Data File : V11210804N24.D
Acq On : 05 Aug 2021 05:19 am
Operator : VOA111:JC
Sample : L2141062-05D,31H,6.66,5,0.025,,A
Misc : WG1531906,ICAL18049
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 05 07:28:44 2021
Quant Method : I:\VOLATILES\VOA111\2021\210804N\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list04N\V11210804N01.D•

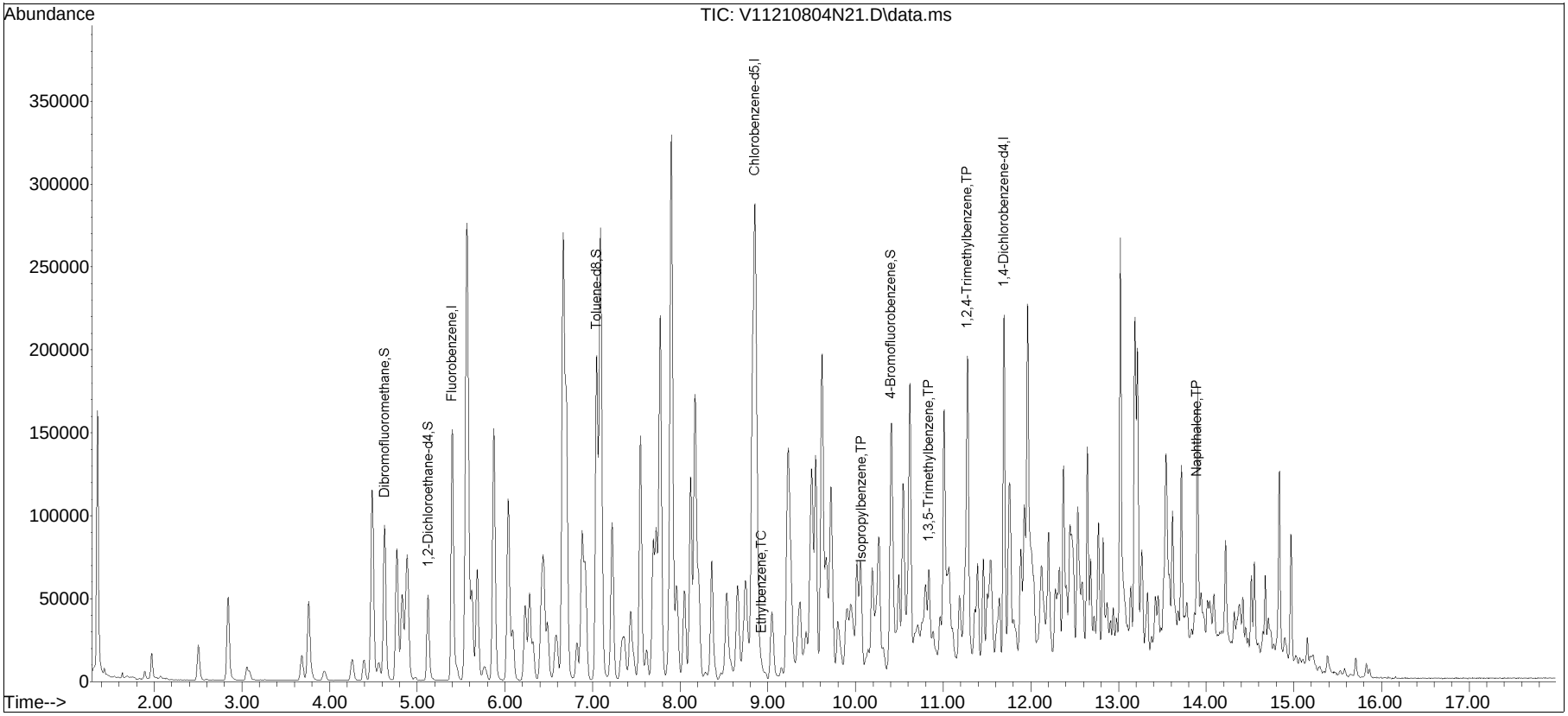


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210804N\
Data File : V11210804N21.D
Acq On : 05 Aug 2021 04:04 am
Operator : VOA111:JC
Sample : L2141062-06,31,6.12,5,,B
Misc : WG1531904,ICAL18049
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Aug 05 06:27:54 2021
Quant Method : I:\VOLATILES\VOA111\2021\210804N\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list04N\V11210804N01.D•

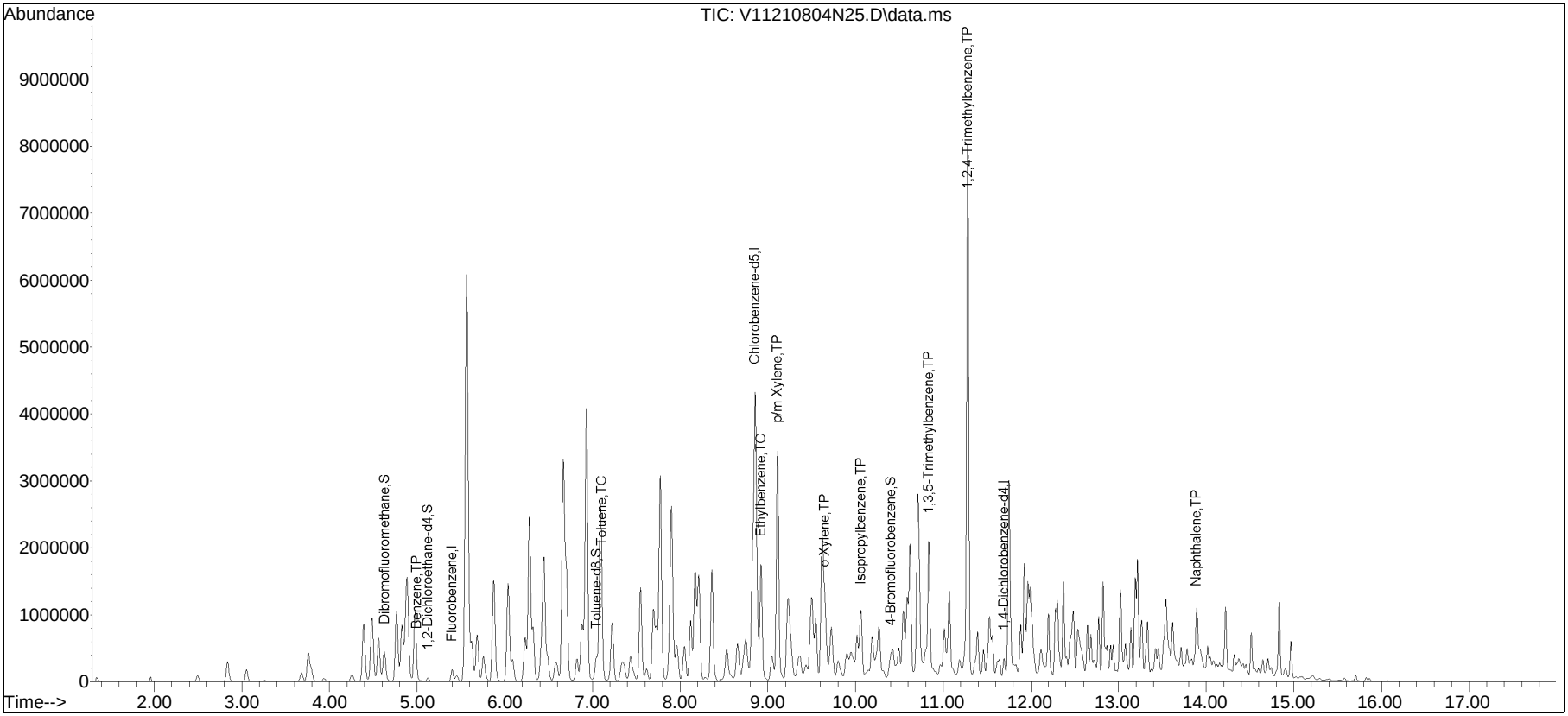


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210804N\
Data File : V11210804N25.D
Acq On : 05 Aug 2021 05:45 am
Operator : VOA111:JC
Sample : L2141062-08D,31H,6.92,5,0.050,,A
Misc : WG1531906,ICAL18049
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Aug 05 06:28:10 2021
Quant Method : I:\VOLATILES\VOA111\2021\210804N\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list04N\V11210804N01.D•

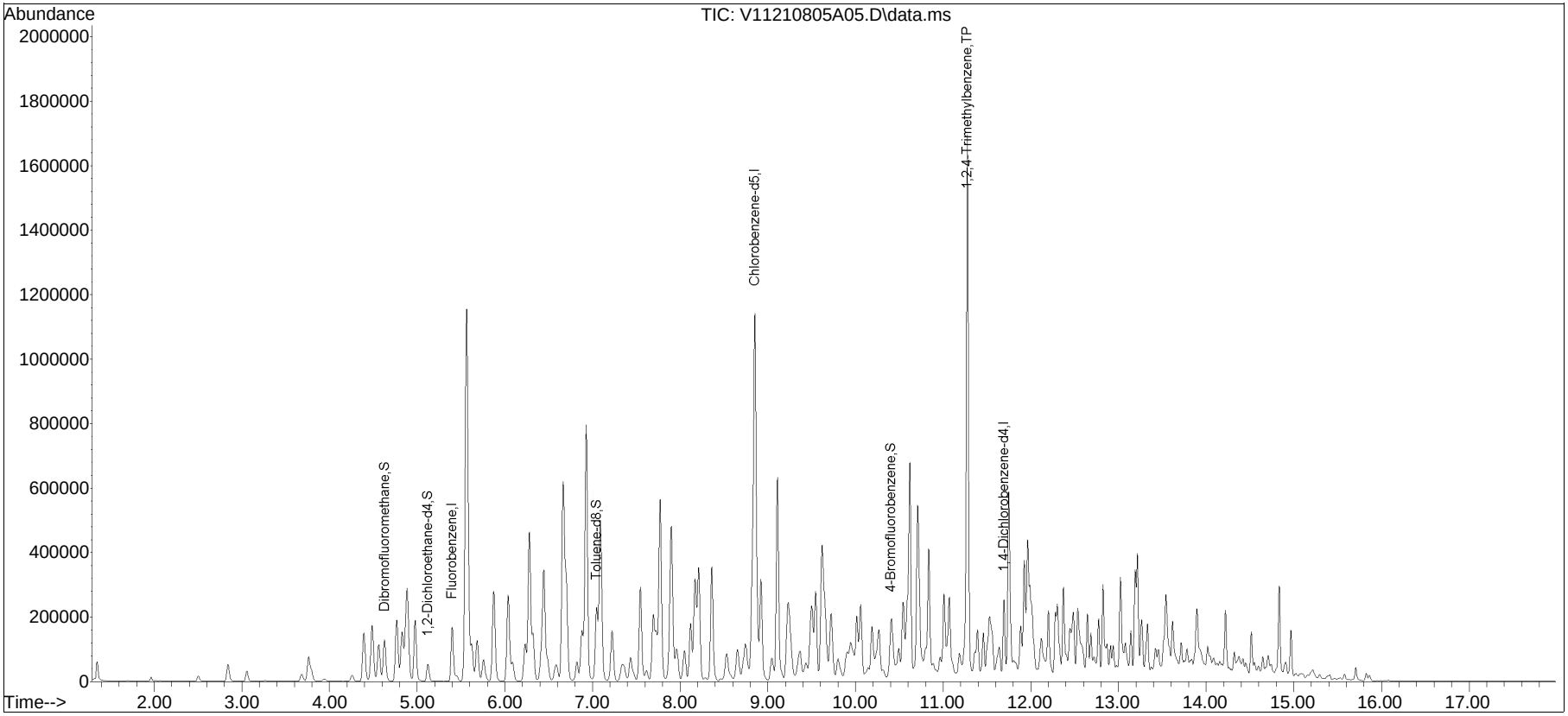


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210805A\
Data File : V11210805A05.D
Acq On : 05 Aug 2021 09:46 am
Operator : VOA111:AJK
Sample : L2141062-08D2,31H,6.92,5,0.010,,A
Misc : WG1531906,ICAL18049
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 05 19:55:23 2021
Quant Method : I:\VOLATILES\VOA111\2021\210805A\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-1,2,4-TMB - 1,2,4-Trimethylbenzene only05A01.D•

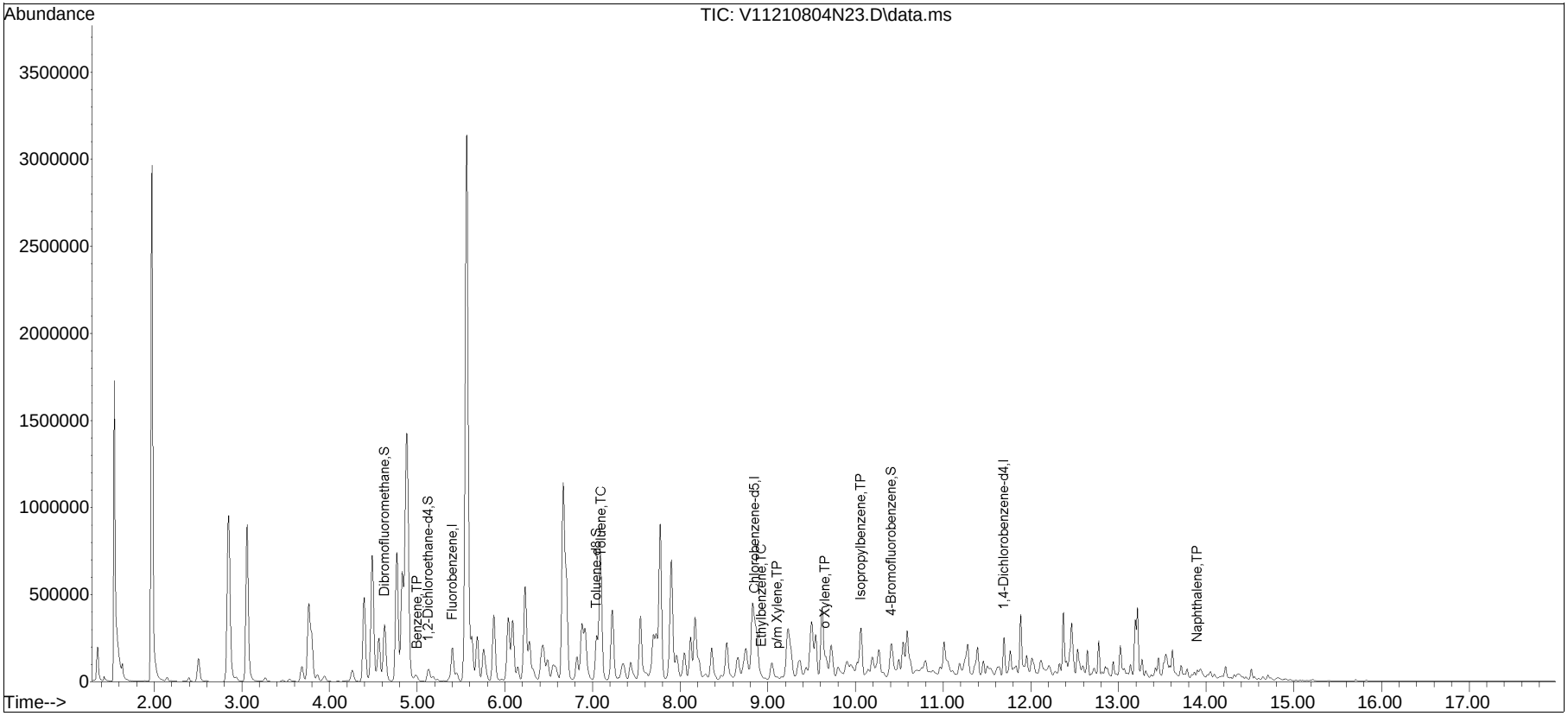


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210804N\
Data File : V11210804N23.D
Acq On : 05 Aug 2021 04:53 am
Operator : VOA111:JC
Sample : L2141062-09,31,6.15,5,,B
Misc : WG1531904,ICAL18049
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 05 07:28:32 2021
Quant Method : I:\VOLATILES\VOA111\2021\210804N\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list04N\V11210804N01.D•

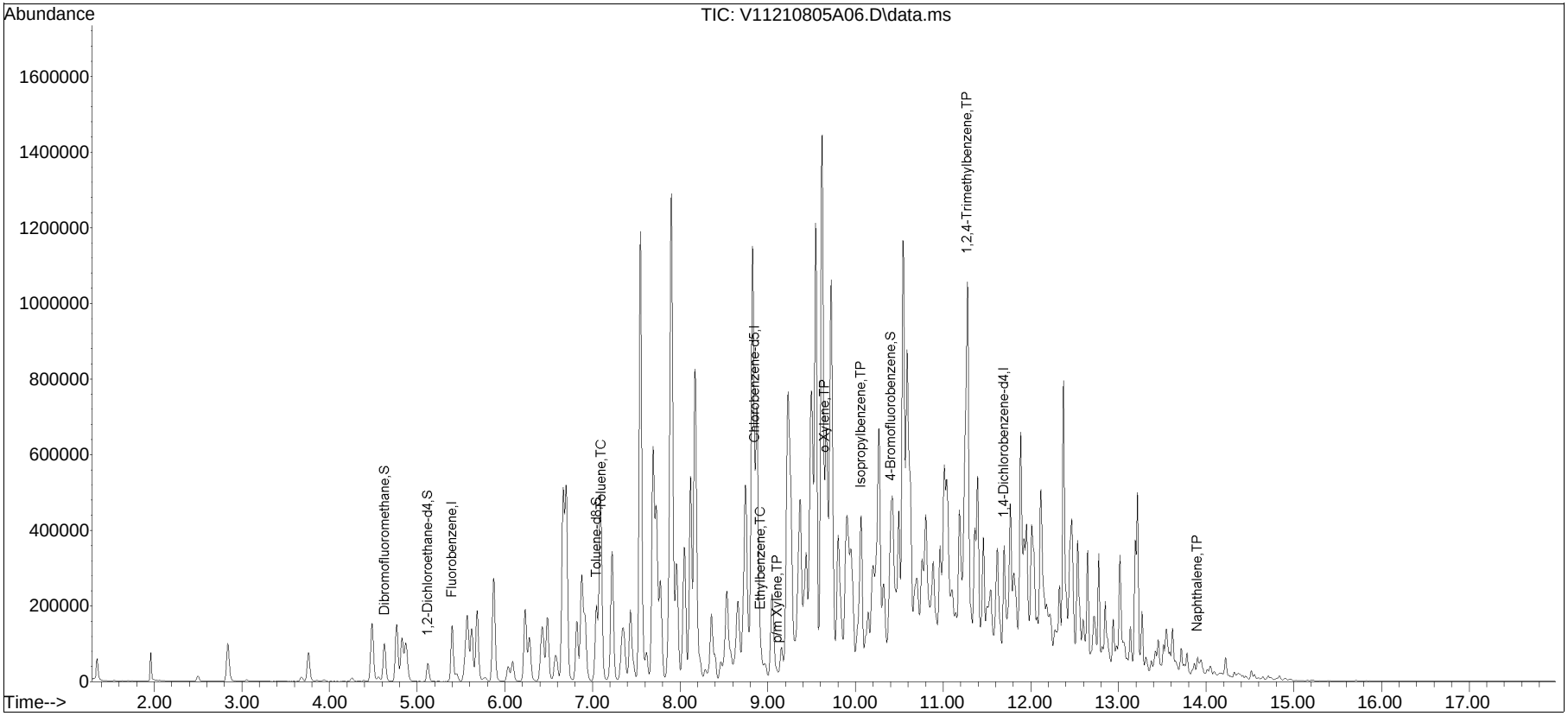


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210805A\
Data File : V11210805A06.D
Acq On : 05 Aug 2021 10:12 am
Operator : VOA111:AJK
Sample : L2141062-10D,31H,6.16,5,0.025,,A
Misc : WG1531906,ICAL18049
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 05 19:59:43 2021
Quant Method : I:\VOLATILES\VOA111\2021\210805A\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list05A\V11210805A01.D•

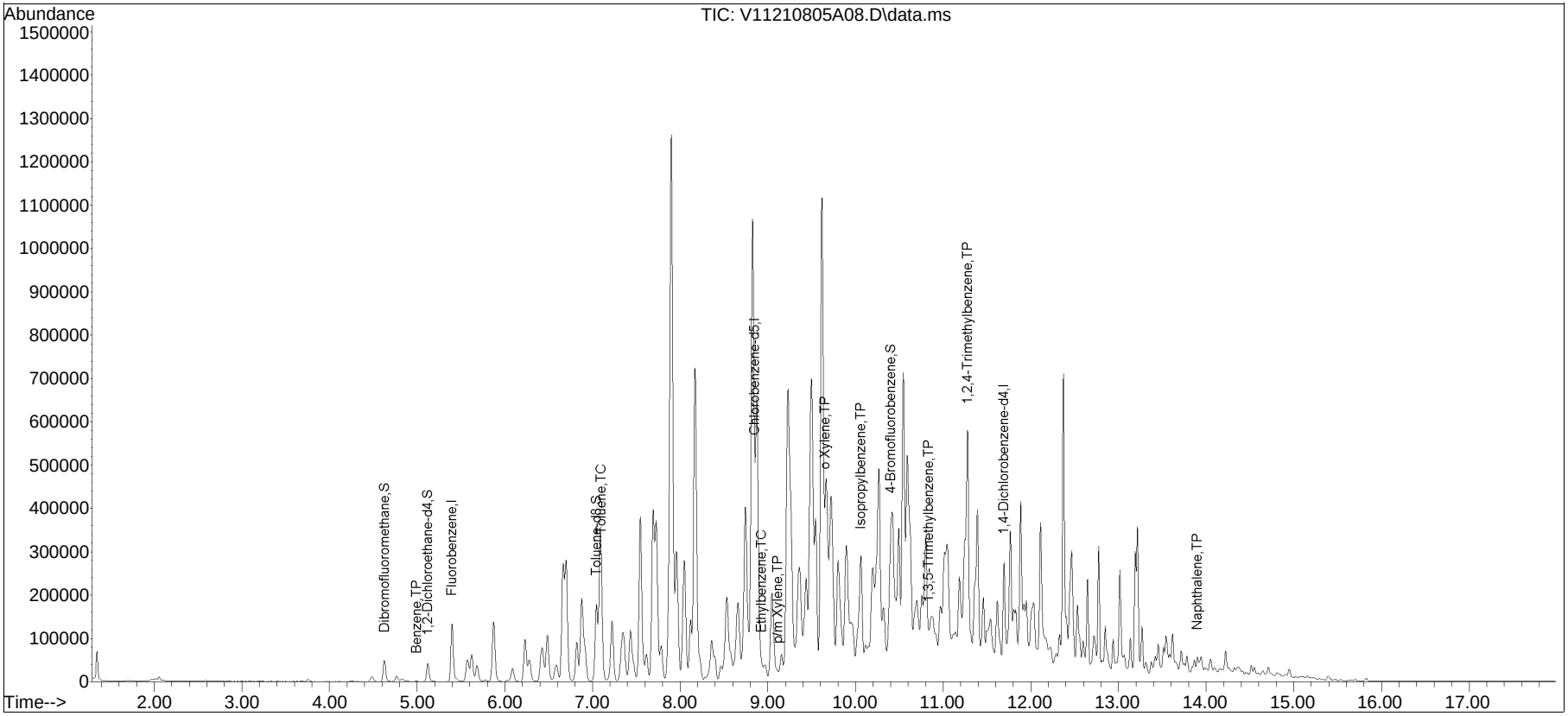


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210805A\
Data File : V11210805A08.D
Acq On : 05 Aug 2021 11:04 am
Operator : VOA111:AJK
Sample : L2141062-13D,31H,5.13,5,0.050,,A
Misc : WG1531906,ICAL18049
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 05 19:55:39 2021
Quant Method : I:\VOLATILES\VOA111\2021\210805A\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list05A\V11210805A01.D•

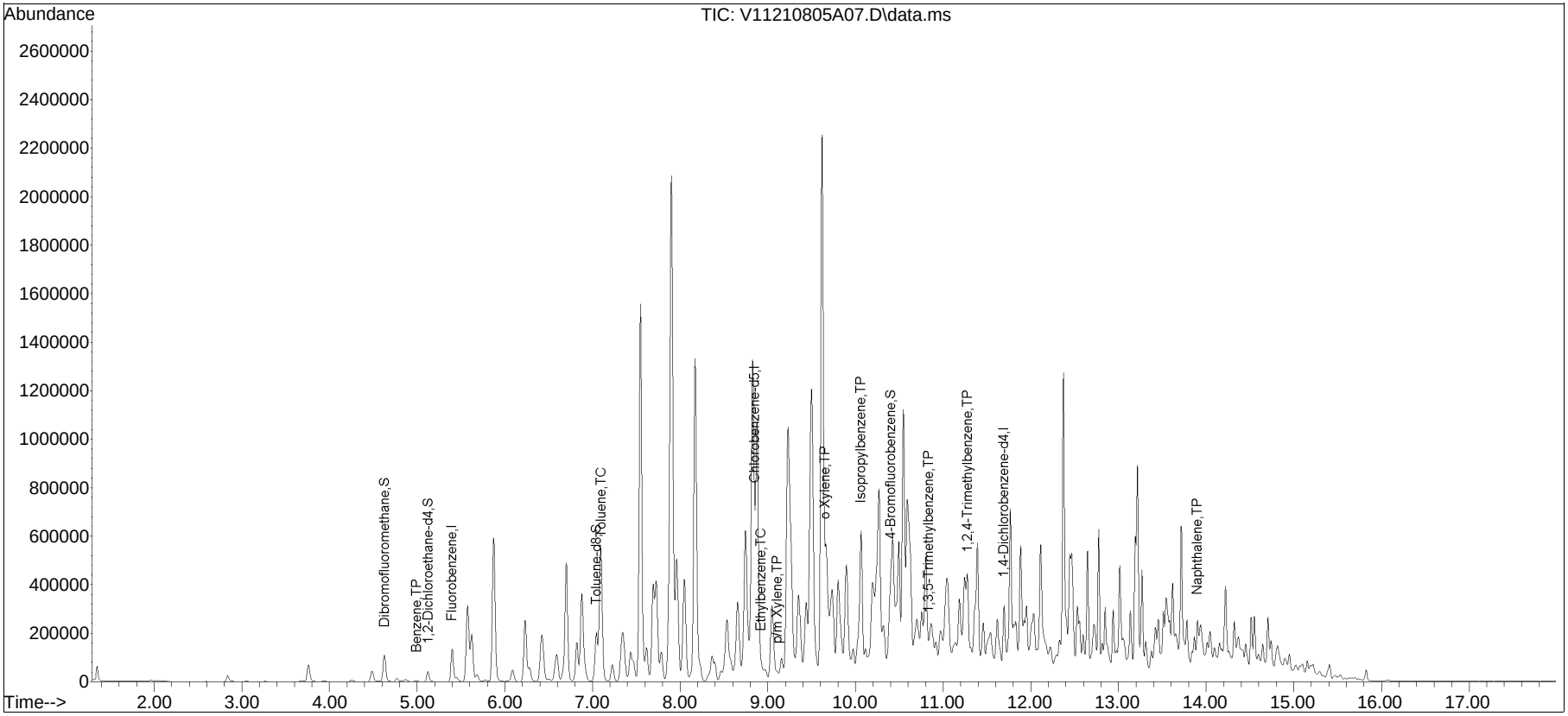


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\210805A\
Data File : V11210805A07.D
Acq On : 05 Aug 2021 10:38 am
Operator : VOA111:AJK
Sample : L2141062-14D,31H,2.83,5,0.025,,A
Misc : WG1531906,ICAL18049
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 05 19:55:33 2021
Quant Method : I:\VOLATILES\VOA111\2021\210805A\V111_210609A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 09 18:48:01 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list05A\V11210805A01.D•



SGS

Dayton, NJ

08/10/21

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Alpha Analytical Laboratories, Inc.

Alpha Analytical, PA

L2141062

SGS Job Number: JD29267

Sampling Date: 07/30/21

Report to:

Alpha Analytical Laboratories, Inc.
Eight Walkup Drive
Westborough, MA 01581
subreports@alphalab.com; brao@alphalab.com

ATTN: Ben Rao

Total number of pages in report: **58**

NELAP ACCREDITED TNI LABORATORY

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Mike Earp

Client Service contact: Michelle Jenkins 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

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SGS North America Inc.

Sample Summary

Alpha Analytical Laboratories, Inc.

Job No: JD29267

Alpha Analytical, PA
Project No: L2141062

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JD29267-1	07/30/21	08:40		08/03/21	SO	Soil	PB882-15-SS01
JD29267-2	07/30/21	09:00		08/03/21	SO	Soil	PB882-17-SS01
JD29267-3	07/30/21	09:30		08/03/21	SO	Soil	PB882-19-SS01
JD29267-4	07/30/21	10:30		08/03/21	SO	Soil	PB882-18-SS01
JD29267-5	07/30/21	11:10		08/03/21	SO	Soil	PB882-10-SS01
JD29267-6	07/30/21	11:20		08/03/21	SO	Soil	PB882-14-SS01
JD29267-7	07/30/21	11:30		08/03/21	SO	Soil	PB882-20-SS01
JD29267-8	07/30/21	11:40		08/03/21	SO	Soil	PB882-16-SS01
JD29267-9	07/30/21	13:00		08/03/21	SO	Soil	PB126-01-SS01
JD29267-10	07/30/21	13:35		08/03/21	SO	Soil	PB126-02-SS01
JD29267-11	07/30/21	14:05		08/03/21	SO	Soil	PB126-03-SS01
JD29267-12	07/30/21	14:15		08/03/21	SO	Soil	PB126-04-SS01
JD29267-13	07/30/21	14:20		08/03/21	SO	Soil	PB126-05-SS01

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SGS North America Inc.

Sample Summary
(continued)

Alpha Analytical Laboratories, Inc.

Job No: JD29267

Alpha Analytical, PA
Project No: L2141062

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JD29267-14	07/30/21	14:30		08/03/21	SO	Soil	PB126-06-SS01
JD29267-15	07/30/21	00:00		08/03/21	SO	Soil	DUP-17
JD29267-16	07/30/21	15:00		08/03/21	AQ	Field Blank Soil	FB-210730

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Summary of Hits

Job Number: JD29267
Account: Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA
Collected: 07/30/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JD29267-1	**PB882-15-SS01**					
Lead		19.4	2.5		mg/kg	SW846 6010D
JD29267-2	**PB882-17-SS01**					
Lead		3.9	2.3		mg/kg	SW846 6010D
JD29267-3	**PB882-19-SS01**					
Lead		10.0	2.6		mg/kg	SW846 6010D
JD29267-4	**PB882-18-SS01**					
Lead		11.3	2.4		mg/kg	SW846 6010D
JD29267-5	**PB882-10-SS01**					
No hits reported in this sample.						
JD29267-6	**PB882-14-SS01**					
Lead		7.0	2.5		mg/kg	SW846 6010D
JD29267-7	**PB882-20-SS01**					
Lead		73.6	2.5		mg/kg	SW846 6010D
JD29267-8	**PB882-16-SS01**					
Lead		11.3	2.3		mg/kg	SW846 6010D
JD29267-9	**PB126-01-SS01**					
Lead		7.9	1.6		mg/kg	SW846 6010D
JD29267-10	**PB126-02-SS01**					
Lead		9.4	2.4		mg/kg	SW846 6010D
JD29267-11	**PB126-03-SS01**					
Lead		7.4	2.4		mg/kg	SW846 6010D

Summary of Hits

Job Number: JD29267
Account: Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA
Collected: 07/30/21

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JD29267-12	**PB126-04-SS01**					
Lead		15.8	2.5		mg/kg	SW846 6010D
JD29267-13	**PB126-05-SS01**					
Lead		1040	2.7		mg/kg	SW846 6010D
JD29267-14	**PB126-06-SS01**					
Lead		156	2.4		mg/kg	SW846 6010D
JD29267-15	**DUP-17**					
Lead		148	2.5		mg/kg	SW846 6010D
JD29267-16	**FB-210730**					

No hits reported in this sample.

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB882-15-SS01		
Lab Sample ID:	JD29267-1	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	81.3
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	19.4	2.5	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB882-17-SS01		
Lab Sample ID:	JD29267-2	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	90.4
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	3.9	2.3	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB882-19-SS01		
Lab Sample ID:	JD29267-3	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	79.6
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	10.0	2.6	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB882-18-SS01		
Lab Sample ID:	JD29267-4	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	82.1
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	11.3	2.4	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB882-10-SS01		
Lab Sample ID:	JD29267-5	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	89.6
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	<12	12	mg/kg	5	08/06/21	08/09/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50959
(2) Prep QC Batch: MP27913

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB882-14-SS01		
Lab Sample ID:	JD29267-6	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	81.5
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	7.0	2.5	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB882-20-SS01		
Lab Sample ID:	JD29267-7	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	82.6
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	73.6	2.5	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB882-16-SS01		
Lab Sample ID:	JD29267-8	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	85.9
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	11.3	2.3	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB126-01-SS01		
Lab Sample ID:	JD29267-9	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	82.5
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	7.9	1.6	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB126-02-SS01		
Lab Sample ID:	JD29267-10	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	82.7
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	9.4	2.4	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB126-03-SS01		
Lab Sample ID:	JD29267-11	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	82.5
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	7.4	2.4	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB126-04-SS01		
Lab Sample ID:	JD29267-12	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	83.5
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	15.8	2.5	mg/kg	1	08/06/21	08/06/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50949
(2) Prep QC Batch: MP27913

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB126-05-SS01		
Lab Sample ID:	JD29267-13	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	77.0
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	1040	2.7	mg/kg	1	08/09/21	08/10/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50958
(2) Prep QC Batch: MP27946

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	PB126-06-SS01		
Lab Sample ID:	JD29267-14	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	84.7
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	156	2.4	mg/kg	1	08/09/21	08/10/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50958
(2) Prep QC Batch: MP27946

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	DUP-17		
Lab Sample ID:	JD29267-15	**Date Sampled:**	07/30/21
Matrix:	SO - Soil	**Date Received:**	08/03/21
		Percent Solids:	81.1
Project:	Alpha Analytical, PA		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	148	2.5	mg/kg	1	08/09/21	08/10/21	ND	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA50958
(2) Prep QC Batch: MP27946

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Client Sample ID:	FB-210730		
Lab Sample ID:	JD29267-16	**Date Sampled:**	07/30/21
Matrix:	AQ - Field Blank Soil	**Date Received:**	08/03/21
		Percent Solids:	n/a
Project:	Alpha Analytical, PA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	<3.0	3.0	ug/l	1	08/05/21	08/05/21	ND	SW846 6010D [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA50946
(2) Prep QC Batch: MP27879

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

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FB

Subcontract Chain of Custody

SGS- North America
2235 US-130
Dayton, NJ 08810

JD29267

Alpha Job Number
L2141062

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 201.812.2633 Email: brao@alphalab.com	Project Location: PA Project Manager: Ben Rao **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2141062

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
1	PB882-15-SS01	07-30-21 08:40	SOIL	Total Lead	E61 T3 A36
2	PB882-17-SS01	07-30-21 09:00	SOIL	Total Lead	
3	PB882-19-SS01	07-30-21 09:30	SOIL	Total Lead	
4	PB882-18-SS01	07-30-21 10:30	SOIL	Total Lead	
5	PB882-10-SS01	07-30-21 11:10	SOIL	Total Lead	
6	PB882-14-SS01	07-30-21 11:20	SOIL	Total Lead	
7	PB882-20-SS01	07-30-21 11:30	SOIL	Total Lead	
8	PB882-16-SS01	07-30-21 11:40	SOIL	Total Lead	
9	PB126-01-SS01	07-30-21 13:00	SOIL	Total Lead	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
	Kim L. Bailey	8/2/21	Paul Mazzella	8/2/21 2012
	Paul Mazzella	8/2/21 2235		8/3/21 8:20

Form No: AL_subcoc

3.0, 4.0

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Subcontract Chain of Custody

SGS- North America
2235 US-130
Dayton, NJ 08810

JD29267

Alpha Job Number
L2141062

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 201.812.2633 Email: brao@alphalab.com	Project Location: PA Project Manager: Ben Rao **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2141062

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
10	PB126-02-SS01	07-30-21 13:35	SOIL	Total Lead	
11	PB126-03-SS01	07-30-21 14:05	SOIL	Total Lead	
12	PB126-04-SS01	07-30-21 14:15	SOIL	Total Lead	
13	PB126-05-SS01	07-30-21 14:20	SOIL	Total Lead	
14	PB126-06-SS01	07-30-21 14:30	SOIL	Total Lead	
15	DUP-17	07-30-21 00:00	SOIL	Total Lead	
16	FB-210730	07-30-21 15:00	WATER	Total Lead	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
	Kim L. Bailey	8/2/21		
	Paul Mazzella	8/2/21 2235	Paul Mazzella	8/2/21 2010
Form No: AL_subcoc				8/3/21 8:20

SGS Sample Receipt Summary

Job Number: JD29267 **Client:** ALPHA ANALYTICAL **Project:** L2141062

Date / Time Received: 8/3/2021 8:20:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.0); Cooler 2: (4.0);

Cooler Temps (Corrected) °C: Cooler 1: (3.0); Cooler 2: (4.0);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:			
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	2		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 212820 pH 12+: 203117A Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

JD29267: Chain of Custody
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Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/05/21

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	17	46		
Antimony	6.0	1.7	4.7		
Arsenic	3.0	1.3	2.8		
Barium	200	.8	13		
Beryllium	1.0	.2	.5		
Bismuth	20	2.1	4		
Boron	100	1	63		
Cadmium	3.0	.2	1		
Calcium	5000	6.6	99		
Cerium	100				
Chromium	10	.3	2		
Cobalt	50	.4	2.6		
Copper	10	.8	5.9		
Iron	100	5.3	32		
Lead	3.0	1.1	1.8	0.30	<3.0
Lithium	50	3.7	7.3		
Magnesium	5000	32	140		
Manganese	15	.1	1.4		
Molybdenum	20	.5	3.6		
Nickel	10	.3	1.7		
Phosphorus	50	1.2	18		
Potassium	10000	77	200		
Selenium	10	2	4.9		
Silicon	200	1.3	100		
Silver	10	.9	1.9		
Sodium	10000	23	570		
Strontium	10	.3	1		
Sulfur	50	3	45		
Thallium	10	1.8	1.8		
Tin	10	.8	3.7		
Titanium	10	.5	2.5		
Tungsten	50	2	40		
Vanadium	50	.6	1.8		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/05/21

Metal	RL	IDL	MDL	MB raw	final
Zinc	20	.1	6.9		
Zirconium	10	.3	4.1		

Associated samples MP27879: JD29267-16

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/05/21

Metal	JD29310-7 Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Aluminum	anr				
Antimony	anr				
Arsenic	anr				
Barium	anr				
Beryllium	anr				
Bismuth					
Boron					
Cadmium	anr				
Calcium	anr				
Cerium					
Chromium	anr				
Cobalt	anr				
Copper	anr				
Iron	anr				
Lead	0.0	1990	2000	99.5	75-125
Lithium					
Magnesium	anr				
Manganese	anr				
Molybdenum	anr				
Nickel	anr				
Phosphorus					
Potassium	anr				
Selenium	anr				
Silicon					
Silver	anr				
Sodium	anr				
Strontium					
Sulfur					
Thallium	anr				
Tin					
Titanium					
Tungsten					
Vanadium	anr				

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/05/21

Metal	JD29310-7 Original MS	Spikelot MPSPK2	% Rec	QC Limits
Zinc	anr			
Zirconium				

Associated samples MP27879: JD29267-16

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879 Methods: SW846 6010D
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 08/05/21

Metal	JD29310-7 Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth						
Boron						
Cadmium	anr					
Calcium	anr					
Cerium						
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron	anr					
Lead	0.0	2010	2000	100.5	1.0	20
Lithium						
Magnesium	anr					
Manganese	anr					
Molybdenum	anr					
Nickel	anr					
Phosphorus						
Potassium	anr					
Selenium	anr					
Silicon						
Silver	anr					
Sodium	anr					
Strontium						
Sulfur						
Thallium	anr					
Tin						
Titanium						
Tungsten						
Vanadium	anr					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879 Methods: SW846 6010D
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 08/05/21

Metal	JD29310-7 Original MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Zinc	anr				
Zirconium					

Associated samples MP27879: JD29267-16

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/05/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Bismuth				
Boron				
Cadmium	anr			
Calcium	anr			
Cerium				
Chromium	anr			
Cobalt	anr			
Copper	anr			
Iron	anr			
Lead	2050	2000	102.5	80-120
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Phosphorus				
Potassium	anr			
Selenium	anr			
Silicon				
Silver	anr			
Sodium	anr			
Strontium				
Sulfur				
Thallium	anr			
Tin				
Titanium				
Tungsten				
Vanadium	anr			

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/05/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Zinc	anr			
Zirconium				

Associated samples MP27879: JD29267-16

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/05/21

Metal	JD29310-7 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Bismuth				
Boron				
Cadmium	anr			
Calcium	anr			
Cerium				
Chromium	anr			
Cobalt	anr			
Copper	anr			
Iron	anr			
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Phosphorus				
Potassium	anr			
Selenium	anr			
Silicon				
Silver	anr			
Sodium	anr			
Strontium				
Sulfur				
Thallium	anr			
Tin				
Titanium				
Tungsten				
Vanadium	anr			

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27879 Methods: SW846 6010D
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 08/05/21

Metal	JD29310-7 Original SDL 1:5	%DIF	QC Limits
Zinc	anr		
Zirconium			

Associated samples MP27879: JD29267-16

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 08/06/21

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	2.7	8.1		
Antimony	2.0	.22	.41		
Arsenic	2.0	.13	.28		
Barium	20	.1	1.9		
Beryllium	0.20	.02	.08		
Bismuth	2.0	.21	.52		
Boron	10	.1	1.5		
Cadmium	0.50	.02	.07		
Calcium	500	.77	44		
Chromium	1.0	.05	.37		
Cobalt	5.0	.04	.28		
Copper	2.5	.68	.84		
Iron	50	1.5	19		
Lead	2.0	.16	.41	0.010	<2.0
Lithium	5.0	.37	.92		
Magnesium	500	5.4	14		
Manganese	1.5	.01	.41		
Molybdenum	2.0	.05	.32		
Nickel	4.0	.03	.35		
Phosphorus	20	.18	3.3		
Potassium	1000	7.7	32		
Selenium	2.0	.2	.65		
Silicon	20	.13	11		
Silver	0.50	.09	.17		
Sodium	1000	2.3	78		
Strontium	5.0	.04	.18		
Sulfur	10	.41	9.4		
Thallium	1.0	.16	.58		
Tin	20	.09	3.8		
Titanium	1.0	.09	.34		
Tungsten	5.0	.2	1.8		
Vanadium	5.0	.08	.19		
Zinc	5.0	.02	2.3		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/06/21

Metal	RL	IDL	MDL	MB raw	final
Zirconium	2.0	.05	.23		

Associated samples MP27913: JD29267-1, JD29267-2, JD29267-3, JD29267-4, JD29267-5, JD29267-6, JD29267-7, JD29267-8, JD29267-9, JD29267-10, JD29267-11, JD29267-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/06/21

Metal	JD29267-6 Original MS		Spikelot MPSPK2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	anr				
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Lead	7.0	281	245	111.7	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc					
Zirconium					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/06/21

Metal	JD29267-6 Original MS	Spikelot MPSPK2	% Rec	QC Limits

Associated samples MP27913: JD29267-1, JD29267-2, JD29267-3, JD29267-4, JD29267-5, JD29267-6, JD29267-7, JD29267-8, JD29267-9, JD29267-10, JD29267-11, JD29267-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/06/21

Metal	JD29267-6 Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	anr					
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Lead	7.0	275	250	107.0	2.2	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc						
Zirconium						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/06/21

	JD29267-6	Spikelot		MSD	QC
Metal	Original MSD	MPSPK2	% Rec	RPD	Limit

Associated samples MP27913: JD29267-1, JD29267-2, JD29267-3, JD29267-4, JD29267-5, JD29267-6, JD29267-7, JD29267-8, JD29267-9, JD29267-10, JD29267-11, JD29267-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 08/06/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	228	200	114.0	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

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SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 08/06/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Zirconium				

Associated samples MP27913: JD29267-1, JD29267-2, JD29267-3, JD29267-4, JD29267-5, JD29267-6, JD29267-7, JD29267-8, JD29267-9, JD29267-10, JD29267-11, JD29267-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913
Matrix Type: SOLID

Methods: SW846 6010D
Units: ug/l

Prep Date: 08/06/21

Metal	JD29267-6 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	55.0	57.9	5.3	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

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SERIAL DILUTION RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27913 Methods: SW846 6010D
Matrix Type: SOLID Units: ug/l

Prep Date: 08/06/21

Metal	JD29267-6 Original SDL 1:5	%DIF	QC Limits
Zirconium			

Associated samples MP27913: JD29267-1, JD29267-2, JD29267-3, JD29267-4, JD29267-5, JD29267-6, JD29267-7, JD29267-8, JD29267-9, JD29267-10, JD29267-11, JD29267-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 08/09/21

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	1.6	8.1		
Antimony	2.0	.25	.41		
Arsenic	2.0	.2	.28		
Barium	20	.04	1.9		
Beryllium	0.20	.01	.08		
Bismuth	2.0	.36	.52		
Boron	10	.19	1.5		
Cadmium	0.50	.04	.07		
Calcium	500	.56	44		
Chromium	1.0	.05	.37		
Cobalt	5.0	.05	.28		
Copper	2.5	.1	.84		
Iron	50	1.1	19		
Lead	2.0	.12	.41	0.030	<2.0
Lithium	5.0	.23	.92		
Magnesium	500	6.5	14		
Manganese	1.5	.02	.41		
Molybdenum	2.0	.04	.32		
Nickel	4.0	.03	.35		
Phosphorus	20	.41	3.3		
Potassium	1000	5.5	32		
Selenium	2.0	.35	.65		
Silicon	20	.16	11		
Silver	0.50	.11	.17		
Sodium	1000	1.1	78		
Strontium	5.0	.01	.18		
Sulfur	10	.44	9.4		
Thallium	1.0	.25	.58		
Tin	20	.1	3.8		
Titanium	1.0	.04	.34		
Tungsten	5.0	.28	1.8		
Vanadium	5.0	.06	.19		
Zinc	5.0	.01	2.3		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 08/09/21

Metal	RL	IDL	MDL	MB raw	final
Zirconium	2.0	.04	.23		

Associated samples MP27946: JD29267-13, JD29267-14, JD29267-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/09/21

Metal	JD29323-8 Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead	4.1	189	212	87.1	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel	anr				
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/09/21

Metal	JD29323-8 Original MS	Spikelot MPSPK2	% Rec	QC Limits
Zirconium				

Associated samples MP27946: JD29267-13, JD29267-14, JD29267-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/09/21

Metal	JD29323-8 Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead	4.1	187	214	85.3	1.1	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/09/21

Metal	JD29323-8 Original MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Zirconium					

Associated samples MP27946: JD29267-13, JD29267-14, JD29267-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 08/09/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	209	198	105.5	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

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SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 08/09/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Zirconium				

Associated samples MP27946: JD29267-13, JD29267-14, JD29267-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946 Methods: SW846 6010D
Matrix Type: SOLID Units: ug/l

Prep Date: 08/09/21

Metal	JD29323-8 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	39.4	40.2	2.0	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD29267
Account: ALPHAMAW - Alpha Analytical Laboratories, Inc.
Project: Alpha Analytical, PA

QC Batch ID: MP27946 Methods: SW846 6010D
Matrix Type: SOLID Units: ug/l

Prep Date: 08/09/21

	JD29323-8		QC
Metal	Original SDL 1:5	%DIF	Limits
Zirconium			

Associated samples MP27946: JD29267-13, JD29267-14, JD29267-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

ANALYTICAL REPORT

Lab Number:	L2154810
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.005.03
Report Date:	10/21/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2154810
Report Date: 10/21/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2154810-01	PB-886-01-SS01	SOIL	PHILADELPHIA, PA	10/07/21 08:40	10/07/21
L2154810-02	PB-886-02-SS01	SOIL	PHILADELPHIA, PA	10/07/21 08:50	10/07/21
L2154810-03	PB-886-03-SS01	SOIL	PHILADELPHIA, PA	10/07/21 09:20	10/07/21
L2154810-04	PB-886-04-SS01	SOIL	PHILADELPHIA, PA	10/07/21 09:40	10/07/21
L2154810-05	PB-886-05-SS01	SOIL	PHILADELPHIA, PA	10/07/21 10:10	10/07/21
L2154810-06	PB-886-08-SS01	SOIL	PHILADELPHIA, PA	10/07/21 11:10	10/07/21
L2154810-07	PB-886-09-SS01	SOIL	PHILADELPHIA, PA	10/07/21 11:30	10/07/21
L2154810-08	PB-886-11-SS01	SOIL	PHILADELPHIA, PA	10/07/21 11:35	10/07/21
L2154810-09	PB-886-12-SS01	SOIL	PHILADELPHIA, PA	10/07/21 11:45	10/07/21
L2154810-10	PB-886-18-SS01	SOIL	PHILADELPHIA, PA	10/07/21 13:20	10/07/21
L2154810-11	PB-886-24-SS01	SOIL	PHILADELPHIA, PA	10/07/21 13:30	10/07/21
L2154810-12	PB-886-26-SS01	SOIL	PHILADELPHIA, PA	10/07/21 13:40	10/07/21
L2154810-13	PB-886-27-SS01	SOIL	PHILADELPHIA, PA	10/07/21 13:50	10/07/21
L2154810-14	DUP-21	SOIL	PHILADELPHIA, PA	10/07/21 00:00	10/07/21
L2154810-15	FB-211007	WATER	PHILADELPHIA, PA	10/07/21 12:00	10/07/21
L2154810-16	TB-211007	WATER	PHILADELPHIA, PA	10/07/21 00:00	10/07/21

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2154810
Project Number:	200.00135.005.03	**Report Date:**	10/21/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2154810
Project Number:	200.00135.005.03	**Report Date:**	10/21/21

Case Narrative (continued)

Report Submission

October 21, 2021: This final report includes the results of all requested analyses.

October 15, 2021: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

The project number was logged per project history.

L2154810-12: The collection date and time on the chain of custody was 07-OCT-21 13:40; however, the collection date/time on the container label was 07-OCT-21 13:50. At the client's request, the collection date/time is reported as 07-OCT-21 13:40.

L2154810-13: The collection date and time on the chain of custody was 07-OCT-21 13:50; however, the collection date/time on the container label was 07-OCT-21 13:40. At the client's request, the collection date/time is reported as 07-OCT-21 13:50.

Volatile Organics

L2154810-06: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of non-target compounds in the sample.

L2154810-06: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (139%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2154810-12: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (277%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2154810-13: The sample was analyzed as a High Level Methanol in order to quantitate results within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2154810
Project Number: 200.00135.005.03 **Report Date:** 10/21/21

Case Narrative (continued)

that exceeded the calibration on the initial Low Level analysis. The results of both analyses are reported. Differences were noted between the results of the analyses which have been attributed to vial discrepancies. Further re-analysis could not be performed due to the existing vials being compromised.
L2154810-14: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (150%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Total Metals
L2154810-05: The sample has an elevated detection limit for lead due to the dilution required by matrix interferences encountered during analysis.
The WG1556309-3 MS recovery, performed on L2154810-01, is outside the acceptance criteria for lead (74%). A post digestion spike was performed and yielded unacceptable recoveries for lead (71%). The serial dilution recovery was not applicable; therefore, this element fails the matrix test and the result reported in the native sample should be considered estimated.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cristin Walker

Title: Technical Director/Representative Date: 10/21/21

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-01
Client ID: PB-886-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 08:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 15:29
Analyst: AJK
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00097	0.00025	1
Toluene	ND		mg/kg	0.00097	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00097	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00097	0.00028	1
Xylenes, Total	ND		mg/kg	0.00097	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00097	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-02
Client ID: PB-886-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 08:50
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/12/21 22:25
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00091	0.00023	1
Toluene	ND		mg/kg	0.00091	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00091	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00091	0.00026	1
Xylenes, Total	ND		mg/kg	0.00091	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00091	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-03
Client ID: PB-886-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 09:20
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/12/21 22:46
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-04
Client ID: PB-886-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 09:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/12/21 23:06
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	0.00014	J	mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	0.00018	J	mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-05
Client ID: PB-886-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 10:10
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/12/21 23:27
Analyst: JC
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00042	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00084	0.00022	1
Toluene	ND		mg/kg	0.00084	0.00046	1
1,2-Dibromoethane	ND		mg/kg	0.00042	0.00025	1
Ethylbenzene	ND		mg/kg	0.00084	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00047	1
o-Xylene	ND		mg/kg	0.00084	0.00024	1
Xylenes, Total	ND		mg/kg	0.00084	0.00024	1
Isopropylbenzene	ND		mg/kg	0.00084	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-06
Client ID: PB-886-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 11:10
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 02:10
Analyst: JC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.15	0.015	1
Benzene	ND		mg/kg	0.038	0.012	1
1,2-Dichloroethane	ND		mg/kg	0.075	0.019	1
Toluene	ND		mg/kg	0.075	0.041	1
1,2-Dibromoethane	ND		mg/kg	0.038	0.022	1
Ethylbenzene	ND		mg/kg	0.075	0.011	1
p/m-Xylene	ND		mg/kg	0.15	0.042	1
o-Xylene	ND		mg/kg	0.075	0.022	1
Xylenes, Total	ND		mg/kg	0.075	0.022	1
Isopropylbenzene	0.015	J	mg/kg	0.075	0.0082	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.15	0.014	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.15	0.025	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	**139**	Q	70-130
Dibromofluoromethane	120		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-07
Client ID: PB-886-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 11:30
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/12/21 23:47
Analyst: JC
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	ND		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00090	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00090	0.00026	1
Xylenes, Total	ND		mg/kg	0.00090	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-08
Client ID: PB-886-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 11:35
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 00:07
Analyst: JC
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00059	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00064	1
1,2-Dibromoethane	ND		mg/kg	0.00059	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00066	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-09
Client ID: PB-886-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 11:45
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 01:29
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0029	0.00029	1
Benzene	ND		mg/kg	0.00072	0.00024	1
1,2-Dichloroethane	ND		mg/kg	0.0014	0.00037	1
Toluene	ND		mg/kg	0.0014	0.00078	1
1,2-Dibromoethane	ND		mg/kg	0.00072	0.00042	1
Ethylbenzene	ND		mg/kg	0.0014	0.00020	1
p/m-Xylene	ND		mg/kg	0.0029	0.00080	1
o-Xylene	0.00049	J	mg/kg	0.0014	0.00042	1
Xylenes, Total	0.00049	J	mg/kg	0.0014	0.00042	1
Isopropylbenzene	ND		mg/kg	0.0014	0.00016	1
1,3,5-Trimethylbenzene	0.0014	J	mg/kg	0.0029	0.00028	1
1,2,4-Trimethylbenzene	0.0011	J	mg/kg	0.0029	0.00048	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-10
Client ID: PB-886-18-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 13:20
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 00:28
Analyst: JC
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00057	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00057	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00063	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-11
Client ID: PB-886-24-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 13:30
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 00:48
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00053	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00057	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00059	1
o-Xylene	ND		mg/kg	0.0010	0.00031	1
Xylenes, Total	ND		mg/kg	0.0010	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-12
Client ID: PB-886-26-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 13:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 14:48
Analyst: AJK
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	0.00025	J	mg/kg	0.00057	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	0.0012		mg/kg	0.0011	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00057	0.00034	1
Ethylbenzene	0.0032		mg/kg	0.0011	0.00016	1
p/m-Xylene	0.010		mg/kg	0.0023	0.00064	1
o-Xylene	0.015		mg/kg	0.0011	0.00033	1
Xylenes, Total	0.025		mg/kg	0.0011	0.00033	1
Isopropylbenzene	0.0089		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.14		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	0.17		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	128		70-130
4-Bromofluorobenzene	**277**	Q	70-130
Dibromofluoromethane	90		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-13
Client ID: PB-886-27-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 13:50
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 01:09
Analyst: JC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00047	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00095	0.00024	1
Toluene	ND		mg/kg	0.00095	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00047	0.00028	1
Ethylbenzene	0.00018	J	mg/kg	0.00095	0.00013	1
p/m-Xylene	0.00073	J	mg/kg	0.0019	0.00053	1
o-Xylene	0.00034	J	mg/kg	0.00095	0.00028	1
Xylenes, Total	0.0011	J	mg/kg	0.00095	0.00028	1
Isopropylbenzene	0.00021	J	mg/kg	0.00095	0.00010	1
1,3,5-Trimethylbenzene	0.34	E	mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	0.051		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-13
Client ID: PB-886-27-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 13:50
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 14:27
Analyst: AJK
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.12	0.012	1
Benzene	ND		mg/kg	0.031	0.010	1
1,2-Dichloroethane	ND		mg/kg	0.062	0.016	1
Toluene	ND		mg/kg	0.062	0.034	1
1,2-Dibromoethane	ND		mg/kg	0.031	0.018	1
Ethylbenzene	ND		mg/kg	0.062	0.0087	1
p/m-Xylene	ND		mg/kg	0.12	0.034	1
o-Xylene	ND		mg/kg	0.062	0.018	1
Xylenes, Total	ND		mg/kg	0.062	0.018	1
Isopropylbenzene	ND		mg/kg	0.062	0.0067	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.12	0.012	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.12	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-14
Client ID: DUP-21
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 00:00
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/13/21 15:08
Analyst: AJK
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0025	0.00025	1
Benzene	ND		mg/kg	0.00063	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00032	1
Toluene	ND		mg/kg	0.0013	0.00068	1
1,2-Dibromoethane	ND		mg/kg	0.00063	0.00037	1
Ethylbenzene	0.00033	J	mg/kg	0.0013	0.00018	1
p/m-Xylene	0.00087	J	mg/kg	0.0025	0.00070	1
o-Xylene	0.0012	J	mg/kg	0.0013	0.00037	1
Xylenes, Total	0.0021	J	mg/kg	0.0013	0.00037	1
Isopropylbenzene	0.00098	J	mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	0.024		mg/kg	0.0025	0.00024	1
1,2,4-Trimethylbenzene	0.025		mg/kg	0.0025	0.00042	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	**150**	Q	70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-15
Client ID: FB-211007
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 12:00
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 10/12/21 15:29
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 10/12/21 14:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-15
Client ID: FB-211007
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 12:00
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/12/21 15:50
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	122		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-16
Client ID: TB-211007
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 00:00
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 10/12/21 15:35
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 10/12/21 14:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-16
Client ID: TB-211007
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 00:00
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/12/21 16:17
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	118		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 10/12/21 15:11
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 10/12/21 14:04

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 15-16 Batch: WG1557629-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2154810

Project Number: 200.00135.005.03 **Report Date:** 10/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/12/21 21:03
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-05,07-11,13 Batch: WG1558059-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/12/21 21:03
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 06 Batch: WG1558061-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2154810

Project Number: 200.00135.005.03 **Report Date:** 10/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/12/21 11:51
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 15-16 Batch: WG1558233-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	116		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/13/21 11:11
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 13 Batch: WG1558494-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2154810

Project Number: 200.00135.005.03 **Report Date:** 10/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/13/21 11:11
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,12,14 Batch: WG1558495-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	101		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 15-16 Batch: WG1557629-2								
1,2-Dibromoethane	116		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-05,07-11,13 Batch: WG1558059-3 WG1558059-4								
Methyl tert butyl ether	102		102		66-130	0		30
Benzene	100		100		70-130	0		30
1,2-Dichloroethane	94		94		70-130	0		30
Toluene	101		100		70-130	1		30
1,2-Dibromoethane	110		112		70-130	2		30
Ethylbenzene	102		100		70-130	2		30
p/m-Xylene	99		97		70-130	2		30
o-Xylene	98		97		70-130	1		30
Isopropylbenzene	107		104		70-130	3		30
1,3,5-Trimethylbenzene	105		103		70-130	2		30
1,2,4-Trimethylbenzene	104		101		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	90		92		70-130
Toluene-d8	101		101		70-130
4-Bromofluorobenzene	99		100		70-130
Dibromofluoromethane	89		90		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 06 Batch: WG1558061-3 WG1558061-4								
Methyl tert butyl ether	102		102		66-130	0		30
Benzene	100		100		70-130	0		30
1,2-Dichloroethane	94		94		70-130	0		30
Toluene	101		100		70-130	1		30
1,2-Dibromoethane	110		112		70-130	2		30
Ethylbenzene	102		100		70-130	2		30
p/m-Xylene	99		97		70-130	2		30
o-Xylene	98		97		70-130	1		30
Isopropylbenzene	107		104		70-130	3		30
1,3,5-Trimethylbenzene	105		103		70-130	2		30
1,2,4-Trimethylbenzene	104		101		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	90		92		70-130
Toluene-d8	101		101		70-130
4-Bromofluorobenzene	99		100		70-130
Dibromofluoromethane	89		90		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 15-16 Batch: WG1558233-3 WG1558233-4								
Methyl tert butyl ether	99		94		63-130	5		20
Benzene	95		98		70-130	3		20
1,2-Dichloroethane	110		110		70-130	0		20
Toluene	95		100		70-130	5		20
Ethylbenzene	94		99		70-130	5		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		100		70-130	5		20
Isopropylbenzene	91		95		70-130	4		20
1,3,5-Trimethylbenzene	87		91		64-130	4		20
1,2,4-Trimethylbenzene	88		89		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	109		98		70-130
Toluene-d8	102		101		70-130
4-Bromofluorobenzene	100		88		70-130
Dibromofluoromethane	114		105		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 13 Batch: WG1558494-3 WG1558494-4								
Methyl tert butyl ether	87		95		66-130	9		30
Benzene	95		96		70-130	1		30
1,2-Dichloroethane	87		90		70-130	3		30
Toluene	96		99		70-130	3		30
1,2-Dibromoethane	99		108		70-130	9		30
Ethylbenzene	97		100		70-130	3		30
p/m-Xylene	94		96		70-130	2		30
o-Xylene	93		96		70-130	3		30
Isopropylbenzene	101		103		70-130	2		30
1,3,5-Trimethylbenzene	99		102		70-130	3		30
1,2,4-Trimethylbenzene	98		101		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	89		90		70-130
Toluene-d8	101		103		70-130
4-Bromofluorobenzene	98		99		70-130
Dibromofluoromethane	91		89		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,12,14 Batch: WG1558495-3 WG1558495-4								
Methyl tert butyl ether	87		95		66-130	9		30
Benzene	95		96		70-130	1		30
1,2-Dichloroethane	87		90		70-130	3		30
Toluene	96		99		70-130	3		30
1,2-Dibromoethane	99		108		70-130	9		30
Ethylbenzene	97		100		70-130	3		30
p/m-Xylene	94		96		70-130	2		30
o-Xylene	93		96		70-130	3		30
Isopropylbenzene	101		103		70-130	2		30
1,3,5-Trimethylbenzene	99		102		70-130	3		30
1,2,4-Trimethylbenzene	98		101		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	89		89		70-130
Toluene-d8	101		103		70-130
4-Bromofluorobenzene	98		99		70-130
Dibromofluoromethane	91		89		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-01
Client ID: PB-886-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 08:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 11:18
Analyst: JG
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	190	24.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	150	47.	1
Benzo(b)fluoranthene	ND		ug/kg	120	33.	1
Chrysene	ND		ug/kg	120	20.	1
Anthracene	ND		ug/kg	120	38.	1
Benzo(ghi)perylene	ND		ug/kg	150	23.	1
Fluorene	ND		ug/kg	190	19.	1
Phenanthrene	ND		ug/kg	120	24.	1
Pyrene	ND		ug/kg	120	19.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	98		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	72		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-02
Client ID: PB-886-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 08:50
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 11:41
Analyst: JG
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	200	24.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	48.	1
Benzo(b)fluoranthene	ND		ug/kg	120	33.	1
Chrysene	ND		ug/kg	120	20.	1
Anthracene	ND		ug/kg	120	38.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	200	19.	1
Phenanthrene	ND		ug/kg	120	24.	1
Pyrene	ND		ug/kg	120	19.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	93		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	64		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-03
Client ID: PB-886-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 09:20
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/14/21 16:48
Analyst: JG
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	200	24.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	49.	1
Benzo(b)fluoranthene	ND		ug/kg	120	34.	1
Chrysene	ND		ug/kg	120	21.	1
Anthracene	ND		ug/kg	120	39.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	200	19.	1
Phenanthrene	ND		ug/kg	120	24.	1
Pyrene	ND		ug/kg	120	20.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**127**	Q	23-120
2-Fluorobiphenyl	88		30-120
4-Terphenyl-d14	65		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-04
Client ID: PB-886-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 09:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 12:28
Analyst: JG
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	190	24.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	47.	1
Benzo(b)fluoranthene	ND		ug/kg	120	33.	1
Chrysene	ND		ug/kg	120	20.	1
Anthracene	ND		ug/kg	120	38.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	190	19.	1
Phenanthrene	43	J	ug/kg	120	24.	1
Pyrene	ND		ug/kg	120	19.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	100		23-120
2-Fluorobiphenyl	88		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-05
Client ID: PB-886-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 10:10
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 12:52
Analyst: JG
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	180	21.	1
Benzo(a)anthracene	ND		ug/kg	100	20.	1
Benzo(a)pyrene	ND		ug/kg	140	43.	1
Benzo(b)fluoranthene	ND		ug/kg	100	29.	1
Chrysene	ND		ug/kg	100	18.	1
Anthracene	ND		ug/kg	100	34.	1
Benzo(ghi)perylene	ND		ug/kg	140	20.	1
Fluorene	ND		ug/kg	180	17.	1
Phenanthrene	ND		ug/kg	100	21.	1
Pyrene	ND		ug/kg	100	17.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	109		23-120
2-Fluorobiphenyl	94		30-120
4-Terphenyl-d14	89		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-06
Client ID: PB-886-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 11:10
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 13:15
Analyst: JG
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	62	J	ug/kg	180	21.	1
Benzo(a)anthracene	ND		ug/kg	100	20.	1
Benzo(a)pyrene	ND		ug/kg	140	43.	1
Benzo(b)fluoranthene	ND		ug/kg	100	30.	1
Chrysene	ND		ug/kg	100	18.	1
Anthracene	320		ug/kg	100	34.	1
Benzo(ghi)perylene	ND		ug/kg	140	21.	1
Fluorene	880		ug/kg	180	17.	1
Phenanthrene	1700		ug/kg	100	21.	1
Pyrene	100		ug/kg	100	17.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	111		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	80		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-07
Client ID: PB-886-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 11:30
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 13:39
Analyst: JG
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	180	21.	1
Benzo(a)anthracene	ND		ug/kg	100	20.	1
Benzo(a)pyrene	ND		ug/kg	140	43.	1
Benzo(b)fluoranthene	ND		ug/kg	100	30.	1
Chrysene	ND		ug/kg	100	18.	1
Anthracene	ND		ug/kg	100	34.	1
Benzo(ghi)perylene	ND		ug/kg	140	21.	1
Fluorene	ND		ug/kg	180	17.	1
Phenanthrene	ND		ug/kg	100	21.	1
Pyrene	ND		ug/kg	100	17.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	72		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-08
Client ID: PB-886-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 11:35
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 14:02
Analyst: JG
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	180	22.	1
Benzo(a)anthracene	ND		ug/kg	110	21.	1
Benzo(a)pyrene	ND		ug/kg	150	45.	1
Benzo(b)fluoranthene	ND		ug/kg	110	31.	1
Chrysene	ND		ug/kg	110	19.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	180	18.	1
Phenanthrene	ND		ug/kg	110	22.	1
Pyrene	ND		ug/kg	110	18.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	103		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	69		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-09
Client ID: PB-886-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 11:45
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 14:26
Analyst: JG
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	190	23.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	150	47.	1
Benzo(b)fluoranthene	ND		ug/kg	120	32.	1
Chrysene	ND		ug/kg	120	20.	1
Anthracene	ND		ug/kg	120	38.	1
Benzo(ghi)perylene	ND		ug/kg	150	23.	1
Fluorene	44	J	ug/kg	190	19.	1
Phenanthrene	120		ug/kg	120	23.	1
Pyrene	ND		ug/kg	120	19.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	105		23-120
2-Fluorobiphenyl	82		30-120
4-Terphenyl-d14	79		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-10
Client ID: PB-886-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 13:20
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 14:49
Analyst: JG
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	140	J	ug/kg	180	22.	1
Benzo(a)anthracene	22	J	ug/kg	110	20.	1
Benzo(a)pyrene	ND		ug/kg	150	44.	1
Benzo(b)fluoranthene	36	J	ug/kg	110	31.	1
Chrysene	93	J	ug/kg	110	19.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	27	J	ug/kg	150	21.	1
Fluorene	30	J	ug/kg	180	18.	1
Phenanthrene	120		ug/kg	110	22.	1
Pyrene	110		ug/kg	110	18.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	62		30-120
4-Terphenyl-d14	56		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-11
Client ID: PB-886-24-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 13:30
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 15:13
Analyst: JG
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	200	25.	1
Benzo(a)anthracene	ND		ug/kg	120	23.	1
Benzo(a)pyrene	ND		ug/kg	160	49.	1
Benzo(b)fluoranthene	ND		ug/kg	120	34.	1
Chrysene	ND		ug/kg	120	21.	1
Anthracene	ND		ug/kg	120	39.	1
Benzo(ghi)perylene	ND		ug/kg	160	24.	1
Fluorene	ND		ug/kg	200	20.	1
Phenanthrene	ND		ug/kg	120	25.	1
Pyrene	ND		ug/kg	120	20.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	91		23-120
2-Fluorobiphenyl	96		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-12
Client ID: PB-886-26-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 13:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 15:36
Analyst: JG
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	22	J	ug/kg	180	22.	1
Benzo(a)anthracene	ND		ug/kg	110	20.	1
Benzo(a)pyrene	ND		ug/kg	140	43.	1
Benzo(b)fluoranthene	ND		ug/kg	110	30.	1
Chrysene	31	J	ug/kg	110	18.	1
Anthracene	34	J	ug/kg	110	34.	1
Benzo(ghi)perylene	ND		ug/kg	140	21.	1
Fluorene	54	J	ug/kg	180	17.	1
Phenanthrene	120		ug/kg	110	22.	1
Pyrene	45	J	ug/kg	110	18.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-13
Client ID: PB-886-27-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 13:50
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/11/21 16:00
Analyst: JG
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	170	21.	1
Benzo(a)anthracene	ND		ug/kg	100	20.	1
Benzo(a)pyrene	ND		ug/kg	140	42.	1
Benzo(b)fluoranthene	ND		ug/kg	100	29.	1
Chrysene	ND		ug/kg	100	18.	1
Anthracene	ND		ug/kg	100	34.	1
Benzo(ghi)perylene	ND		ug/kg	140	20.	1
Fluorene	ND		ug/kg	170	17.	1
Phenanthrene	ND		ug/kg	100	21.	1
Pyrene	ND		ug/kg	100	17.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	84		30-120
4-Terphenyl-d14	84		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-14
Client ID: DUP-21
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 00:00
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/12/21 12:50
Analyst: SZ
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 10/10/21 02:47

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/kg	180	22.	1
Benzo(a)anthracene	ND		ug/kg	100	20.	1
Benzo(a)pyrene	ND		ug/kg	140	43.	1
Benzo(b)fluoranthene	ND		ug/kg	100	30.	1
Chrysene	ND		ug/kg	100	18.	1
Anthracene	ND		ug/kg	100	34.	1
Benzo(ghi)perylene	ND		ug/kg	140	21.	1
Fluorene	ND		ug/kg	180	17.	1
Phenanthrene	ND		ug/kg	100	21.	1
Pyrene	ND		ug/kg	100	18.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	93		23-120
2-Fluorobiphenyl	71		30-120
4-Terphenyl-d14	64		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-15
Client ID: FB-211007
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 12:00
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 10/13/21 20:09
Analyst: ALS

Extraction Method: EPA 3510C
Extraction Date: 10/12/21 11:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.05	J	ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	0.02	J	ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	0.02	J	ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	51		21-120
Phenol-d6	41		10-120
Nitrobenzene-d5	55		23-120
2-Fluorobiphenyl	70		15-120
2,4,6-Tribromophenol	62		10-120
4-Terphenyl-d14	75		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/11/21 12:24
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 10/09/21 01:43

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-13 Batch: WG1556449-1					
Naphthalene	ND		ug/kg	160	20.
Benzo(a)anthracene	ND		ug/kg	97	18.
Benzo(a)pyrene	ND		ug/kg	130	39.
Benzo(b)fluoranthene	ND		ug/kg	97	27.
Chrysene	ND		ug/kg	97	17.
Anthracene	ND		ug/kg	97	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	97	20.
Pyrene	ND		ug/kg	97	16.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	96		25-120
Phenol-d6	93		10-120
Nitrobenzene-d5	92		23-120
2-Fluorobiphenyl	89		30-120
2,4,6-Tribromophenol	92		10-136
4-Terphenyl-d14	90		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/12/21 04:51
Analyst: SZ

Extraction Method: EPA 3546
Extraction Date: 10/10/21 02:47

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 14 Batch: WG1556713-1					
Naphthalene	ND		ug/kg	160	20.
Benzo(a)anthracene	ND		ug/kg	99	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	99	28.
Chrysene	ND		ug/kg	99	17.
Anthracene	ND		ug/kg	99	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	99	20.
Pyrene	ND		ug/kg	99	16.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	79		30-120
4-Terphenyl-d14	91		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 10/13/21 18:35
Analyst: ALS

Extraction Method: EPA 3510C
Extraction Date: 10/12/21 11:07

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 15 Batch: WG1557513-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	0.03	J	ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	0.02	J	ug/l	0.10	0.02
Benzo(a)anthracene	0.03	J	ug/l	0.05	0.02
Chrysene	0.02	J	ug/l	0.10	0.01
Benzo(b)fluoranthene	0.05	J	ug/l	0.05	0.01
Benzo(a)pyrene	0.03	J	ug/l	0.10	0.02
Benzo(ghi)perylene	0.04	J	ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	48		21-120
Phenol-d6	39		10-120
Nitrobenzene-d5	50		23-120
2-Fluorobiphenyl	65		15-120
2,4,6-Tribromophenol	63		10-120
4-Terphenyl-d14	74		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-13 Batch: WG1556449-2 WG1556449-3								
Naphthalene	82		94		40-140	14		50
Benzo(a)anthracene	93		98		40-140	5		50
Benzo(a)pyrene	98		107		40-140	9		50
Benzo(b)fluoranthene	94		104		40-140	10		50
Chrysene	88		95		40-140	8		50
Anthracene	87		92		40-140	6		50
Benzo(ghi)perylene	93		99		40-140	6		50
Fluorene	92		96		40-140	4		50
Phenanthrene	86		91		40-140	6		50
Pyrene	90		95		35-142	5		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	91		103		25-120
Phenol-d6	90		100		10-120
Nitrobenzene-d5	89		99		23-120
2-Fluorobiphenyl	88		99		30-120
2,4,6-Tribromophenol	96		99		10-136
4-Terphenyl-d14	87		92		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 14 Batch: WG1556713-2 WG1556713-3								
Naphthalene	81		82		40-140	1		50
Benzo(a)anthracene	85		85		40-140	0		50
Benzo(a)pyrene	88		88		40-140	0		50
Benzo(b)fluoranthene	83		84		40-140	1		50
Chrysene	82		82		40-140	0		50
Anthracene	85		84		40-140	1		50
Benzo(ghi)perylene	83		85		40-140	2		50
Fluorene	84		86		40-140	2		50
Phenanthrene	83		82		40-140	1		50
Pyrene	85		86		35-142	1		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	80		82		23-120
2-Fluorobiphenyl	82		82		30-120
4-Terphenyl-d14	94		94		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 15 Batch: WG1557513-2 WG1557513-3								
Naphthalene	63		57		40-140	10		40
Fluorene	73		69		40-140	6		40
Phenanthrene	68		67		40-140	1		40
Anthracene	71		67		40-140	6		40
Pyrene	74		75		26-127	1		40
Benzo(a)anthracene	75		78		40-140	4		40
Chrysene	67		70		40-140	4		40
Benzo(b)fluoranthene	75		86		40-140	14		40
Benzo(a)pyrene	75		81		40-140	8		40
Benzo(ghi)perylene	66		74		40-140	11		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	54		47		21-120
Phenol-d6	44		41		10-120
Nitrobenzene-d5	55		49		23-120
2-Fluorobiphenyl	69		63		15-120
2,4,6-Tribromophenol	65		56		10-120
4-Terphenyl-d14	73		73		41-149

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-01
Client ID: PB-886-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 10/07/21 08:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.35		mg/kg	4.55	0.244	2	10/08/21 21:25	10/13/21 17:32	EPA 3050B	1,6010D	JC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-02
Client ID: PB-886-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 08:50
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.80		mg/kg	4.64	0.248	2	10/08/21 21:25	10/13/21 17:24	EPA 3050B	1,6010D	JC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-03
Client ID: PB-886-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 09:20
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.50		mg/kg	4.81	0.258	2	10/08/21 21:25	10/13/21 17:28	EPA 3050B	1,6010D	JC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-04
Client ID: PB-886-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 09:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	8.09		mg/kg	4.65	0.249	2	10/08/21 21:25	10/13/21 18:02	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-05
Client ID: PB-886-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 10:10
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.94	J	mg/kg	4.12	0.221	2	10/08/21 21:25	10/13/21 18:07	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-06
Client ID: PB-886-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 11:10
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	81.9		mg/kg	2.10	0.112	1	10/08/21 21:25	10/12/21 23:25	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-07
Client ID: PB-886-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 11:30
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.76	J	mg/kg	2.10	0.113	1	10/08/21 21:25	10/13/21 00:00	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-08
Client ID: PB-886-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 11:35
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	11.7		mg/kg	2.14	0.115	1	10/08/21 21:25	10/13/21 00:05	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-09
Client ID: PB-886-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 11:45
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.66		mg/kg	4.58	0.245	2	10/08/21 21:25	10/13/21 18:11	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-10
Client ID: PB-886-18-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 13:20
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.92	J	mg/kg	2.10	0.112	1	10/08/21 21:25	10/13/21 00:15	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-11
Client ID: PB-886-24-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 13:30
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.51		mg/kg	2.35	0.126	1	10/08/21 21:25	10/13/21 00:19	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-12
Client ID: PB-886-26-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 13:40
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.15		mg/kg	2.08	0.111	1	10/08/21 21:25	10/13/21 00:24	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-13
Client ID: PB-886-27-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 13:50
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.28		mg/kg	2.04	0.109	1	10/08/21 21:25	10/13/21 00:28	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-14
Client ID: DUP-21
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 00:00
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.87	J	mg/kg	2.09	0.112	1	10/08/21 21:25	10/13/21 00:33	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2154810
Project Number: 200.00135.005.03
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-15
Client ID: FB-211007
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 12:00
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	10/12/21 06:28	10/14/21 21:40	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 15 Batch: WG1555973-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	10/12/21 06:28	10/14/21 20:35	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-14 Batch: WG1556309-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	10/08/21 21:25	10/12/21 23:07	1,6010D	DL

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 15 Batch: WG1555973-2								
Lead, Total	97		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-14 Batch: WG1556309-2 SRM Lot Number: D109-540								
Lead, Total	82		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2154810
Report Date: 10/21/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 15 QC Batch ID: WG1555973-3 QC Sample: L2154461-01 Client ID: MS Sample												
Lead, Total	ND	530	516.4	97		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-14 QC Batch ID: WG1556309-3 QC Sample: L2154810-01 Client ID: PB-886-01-SS01												
Lead, Total	6.35	48	42.0	**74**	Q	-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-14 QC Batch ID: WG1556309-4 QC Sample: L2154810-01 Client ID: PB-886-01-SS01						
Lead, Total	6.35	6.39	mg/kg	1		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-01
Client ID: PB-886-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 08:40
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.7		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-02
Client ID: PB-886-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 08:50
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.2		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-03
Client ID: PB-886-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 09:20
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.1		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-04
Client ID: PB-886-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 10/07/21 09:40
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.9		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-05
Client ID: PB-886-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 10:10
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.8		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-06
Client ID: PB-886-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 11:10
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.6		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-07
Client ID: PB-886-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 11:30
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.6		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-08
Client ID: PB-886-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 10/07/21 11:35
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.9		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-09
Client ID: PB-886-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 11:45
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.9		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-10
Client ID: PB-886-18-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 13:20
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.0		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
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SAMPLE RESULTS

Lab ID: L2154810-11
Client ID: PB-886-24-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 13:30
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.6		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-12
Client ID: PB-886-26-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 13:40
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.2		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-13
Client ID: PB-886-27-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 10/07/21 13:50
Date Received: 10/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.0		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2154810
Report Date: 10/21/21

SAMPLE RESULTS

Lab ID: L2154810-14
Client ID: DUP-21
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 10/07/21 00:00
Date Received: 10/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.1		%	0.100	NA	1	-	10/08/21 10:19	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2154810

Report Date: 10/21/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG1556018-1 QC Sample: L2154810-01 Client ID: PB-886-01-SS01						
Solids, Total	84.7	84.8	%	0		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2154810
Report Date: 10/21/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2154810-01A	Vial MeOH preserved	A	NA		3.2	Y	Absent		PA-8260HLW(14)
L2154810-01B	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-01C	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-01D	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)
L2154810-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		PB-TI(180)
L2154810-01F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		8270TCL-PAH(14)
L2154810-02A	Vial MeOH preserved	A	NA		3.2	Y	Absent		PA-8260HLW(14)
L2154810-02B	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-02C	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-02D	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)
L2154810-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		PB-TI(180)
L2154810-02F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		8270TCL-PAH(14)
L2154810-03A	Vial MeOH preserved	A	NA		3.2	Y	Absent		PA-8260HLW(14)
L2154810-03B	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-03C	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-03D	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)
L2154810-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		PB-TI(180)
L2154810-03F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		8270TCL-PAH(14)
L2154810-04A	Vial MeOH preserved	A	NA		3.2	Y	Absent		PA-8260HLW(14)
L2154810-04B	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-04C	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-04D	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2154810
Report Date: 10/21/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2154810-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		PB-TI(180)
L2154810-04F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		8270TCL-PAH(14)
L2154810-05A	Vial MeOH preserved	A	NA		3.2	Y	Absent		PA-8260HLW(14)
L2154810-05B	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-05C	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-05D	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)
L2154810-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		PB-TI(180)
L2154810-05F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		8270TCL-PAH(14)
L2154810-06A	Vial MeOH preserved	A	NA		3.2	Y	Absent		PA-8260HLW(14)
L2154810-06B	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-06C	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-06D	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)
L2154810-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		PB-TI(180)
L2154810-06F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		8270TCL-PAH(14)
L2154810-07A	Vial MeOH preserved	A	NA		3.2	Y	Absent		PA-8260HLW(14)
L2154810-07B	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-07C	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-07D	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)
L2154810-07E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		PB-TI(180)
L2154810-07F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		8270TCL-PAH(14)
L2154810-08A	Vial MeOH preserved	A	NA		3.2	Y	Absent		PA-8260HLW(14)
L2154810-08B	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-08C	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-08D	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)
L2154810-08E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		PB-TI(180)
L2154810-08F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		8270TCL-PAH(14)
L2154810-09A	Vial MeOH preserved	A	NA		3.2	Y	Absent		PA-8260HLW(14)
L2154810-09B	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2154810
Report Date: 10/21/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2154810-09C	Vial water preserved	A	NA		3.2	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-09D	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)
L2154810-09E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		PB-TI(180)
L2154810-09F	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		8270TCL-PAH(14)
L2154810-10A	Vial MeOH preserved	B	NA		4.8	Y	Absent		PA-8260HLW(14)
L2154810-10B	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-10C	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-10D	Plastic 120ml unpreserved	B	NA		4.8	Y	Absent		TS(7)
L2154810-10E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.8	Y	Absent		PB-TI(180)
L2154810-10F	Glass 120ml/4oz unpreserved	B	NA		4.8	Y	Absent		8270TCL-PAH(14)
L2154810-11A	Vial MeOH preserved	B	NA		4.8	Y	Absent		PA-8260HLW(14)
L2154810-11B	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-11C	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-11D	Plastic 120ml unpreserved	B	NA		4.8	Y	Absent		TS(7)
L2154810-11E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.8	Y	Absent		PB-TI(180)
L2154810-11F	Glass 120ml/4oz unpreserved	B	NA		4.8	Y	Absent		8270TCL-PAH(14)
L2154810-12A	Vial MeOH preserved	B	NA		4.8	Y	Absent		PA-8260HLW(14)
L2154810-12B	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-12C	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-12D	Plastic 120ml unpreserved	B	NA		4.8	Y	Absent		TS(7)
L2154810-12E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.8	Y	Absent		PB-TI(180)
L2154810-12F	Glass 120ml/4oz unpreserved	B	NA		4.8	Y	Absent		8270TCL-PAH(14)
L2154810-13A	Vial MeOH preserved	B	NA		4.8	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2154810-13B	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260H(14),PA-8260HLW(14)
L2154810-13C	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260H(14),PA-8260HLW(14)
L2154810-13D	Plastic 120ml unpreserved	B	NA		4.8	Y	Absent		TS(7)
L2154810-13E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.8	Y	Absent		PB-TI(180)
L2154810-13F	Glass 120ml/4oz unpreserved	B	NA		4.8	Y	Absent		8270TCL-PAH(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2154810
Report Date: 10/21/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2154810-14A	Vial MeOH preserved	B	NA		4.8	Y	Absent		PA-8260HLW(14)
L2154810-14B	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-14C	Vial water preserved	B	NA		4.8	Y	Absent	08-OCT-21 06:24	PA-8260HLW(14)
L2154810-14D	Plastic 120ml unpreserved	B	NA		4.8	Y	Absent		TS(7)
L2154810-14E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.8	Y	Absent		PB-TI(180)
L2154810-14F	Glass 120ml/4oz unpreserved	B	NA		4.8	Y	Absent		8270TCL-PAH(14)
L2154810-15A	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2154810-15B	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2154810-15C	Vial HCl preserved	A	NA		3.2	Y	Absent		8011(14)
L2154810-15D	Plastic 250ml HNO3 preserved	A	<2	<2	3.2	Y	Absent		PB-6020T-PPB(180)
L2154810-15E	Amber 250ml unpreserved	A	7	7	3.2	Y	Absent		PA-8270SIM-LVI(7)
L2154810-15F	Amber 250ml unpreserved	A	7	7	3.2	Y	Absent		PA-8270SIM-LVI(7)
L2154810-16A	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2154810-16B	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2154810-16C	Vial Na2S2O3 preserved	A	NA		3.2	Y	Absent		8011(14)
L2154810-16D	Vial Na2S2O3 preserved	A	NA		3.2	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2154810
Project Number:	200.00135.005.03	**Report Date:**	10/21/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2154810
Project Number:	200.00135.005.03	**Report Date:**	10/21/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2154810
Project Number:	200.00135.005.03	**Report Date:**	10/21/21

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2154810
Project Number:	200.00135.005.03	**Report Date:**	10/21/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA TRIAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 10/8/21

ALPHA Job #: L 2154810

Client Information

Client: Ransom Consulting
Address: 2127 Hamilton Ave
Trenton, NJ 08619
Phone: 215-901-4934
Fax:
Email: William.Schmidt@RansomEnv.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☑ EMAIL
☑ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program	Criteria

Other Project Specific Requirements/Comments/Detection Limits:
ONLY REPORT PROJECT SPECIFIC CONSTITUENTS
SEE ATTACHED

ANALYSIS
Rider Spreadsheet 1-5

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments	TOTAL # BOTTLES
54810-01	PB-886-01-5501	10/7	0840	S	TS		6
-02	PB-886-02-5501		0850				
-03	PB-886-03-5501		0920				
-04	PB-886-04-5501		0940				
-05	PB-886-05-5501		1010				
-06	PB-886-08-5501		1110				
-07	PB-886-09-5501		1130				
-08	PB-886-11-5501		1135				
-09	PB-886-12-5501		1145				
-10	PB-886-18-5501		1320				

Container Type	
Preservative	

Relinquished By:	Date/Time	Received By:	Date/Time
	10/7 1535		10/7/21 15
	10/7 1800		1800
	10/7 2030		
AAL	10/8/21 0020	AAL	10/7/21 20:30

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

10/7/21 07:00

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 10/8/21

ALPHA Job #: L2154810

Client Information

Client: Ransom Consulting
Address: 2127 Hamilton Ave
Trenton, NJ 08619
Phone: 215-901-4934
Fax:
Email: William Schmidt
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☑ EMAIL
☑ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program	Criteria

Other Project Specific Requirements/Comments/Detection Limits:

See PG. 1

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5	VOC-Shortlist 1-5	Sample Specific Comments	TOTAL # BOTTLES
54810-11	PB-886-24-5501	10/7	1330	S	JS	X			6
-12	PB-886-26-5501		1340	S		X			6
-13	PB-886-27-5501		1350	S		X			6
-14	DUP-21		-	S		X			6
-15	FB-211007		1200	W		X			6
-16	TB-211007						X		4

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
	10/7 1535		10/7/21
	10/8 1030		10/8/21 2050
	10/8/21 0900		10/8/21 0900

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

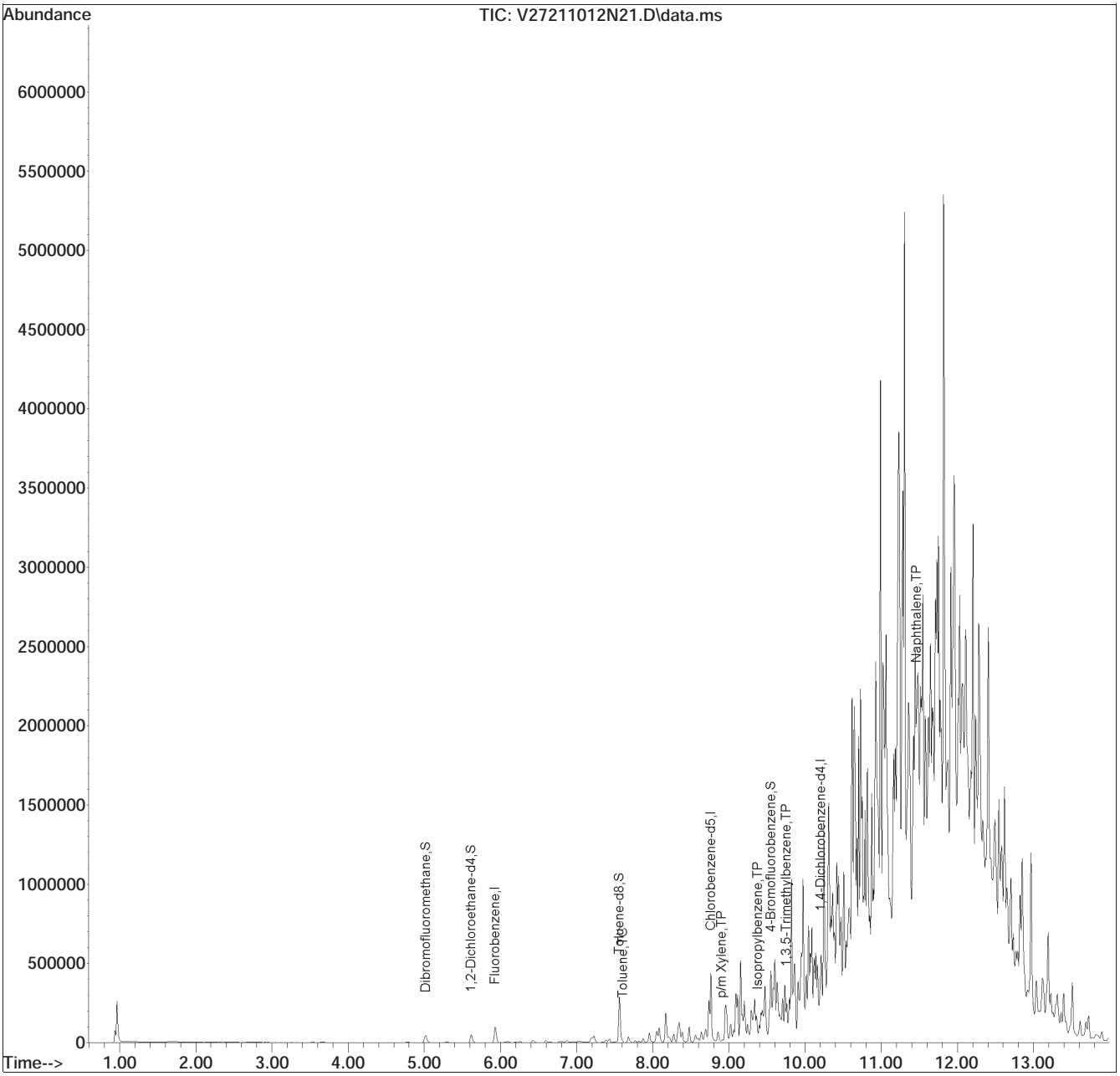
FORM NO: 01-01 (rev. 14-OCT-07)

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA127\2021\211012N\
Data File : V27211012N21.D
Acq On : 13 Oct 2021 02:10 am
Operator : VOA127:JC
Sample : L2154810-06,31H,3.71,5,0.100,,A
Misc : WG1558061,ICAL18360
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Oct 13 07:53:25 2021
Quant Method : I:\VOLATILES\VOA127\2021\211012N\V127_211005N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Oct 06 10:48:31 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list12N\V27211012N01.D•

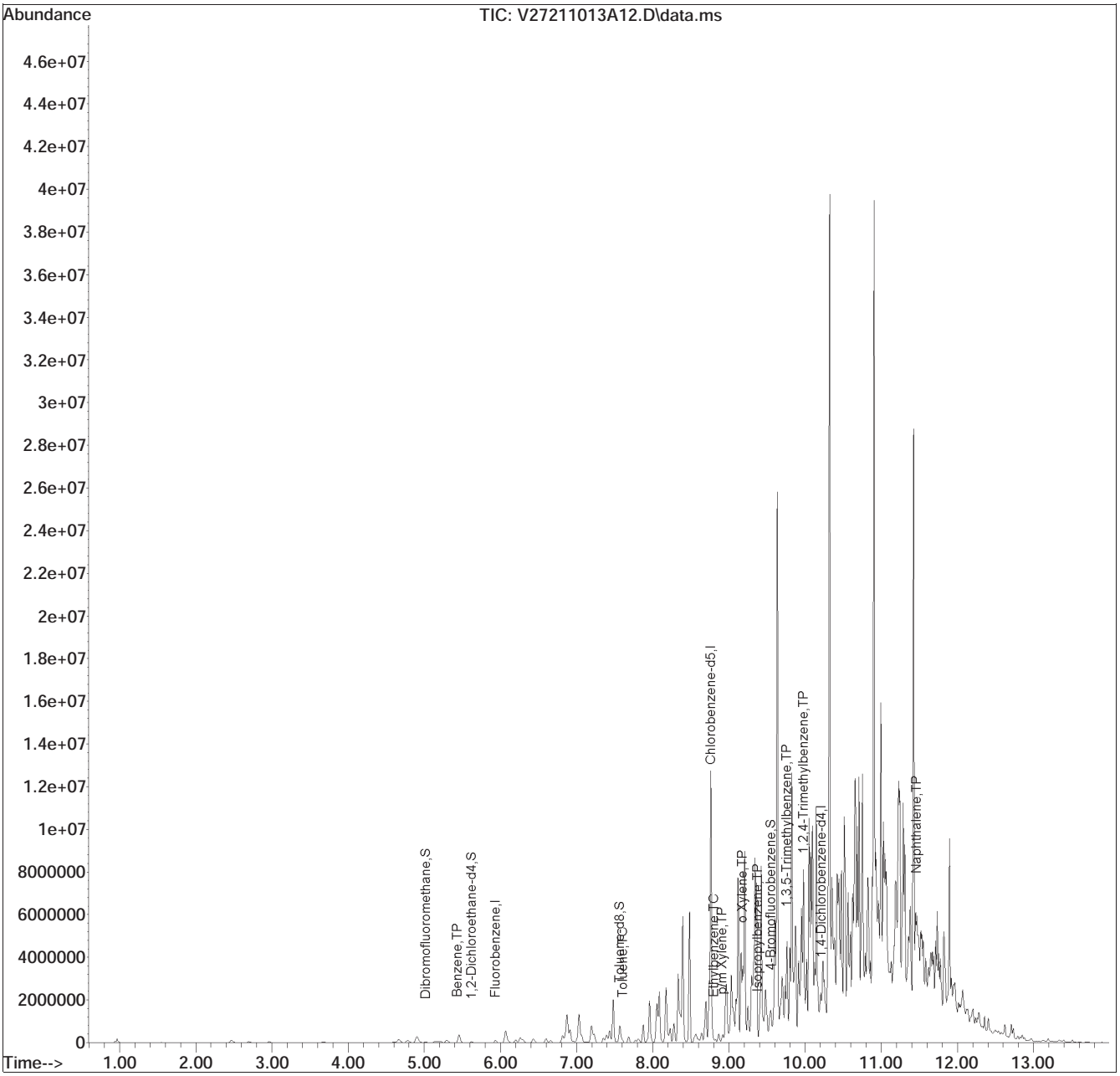


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA127\2021\211013A\
Data File : V27211013A12.D
Acq On : 13 Oct 2021 02:48 pm
Operator : VOA127:AJK
Sample : L2154810-12,31,4.79,5,,B
Misc : WG1558495,ICAL18360
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 13 16:21:31 2021
Quant Method : I:\VOLATILES\VOA127\2021\211013A\V127_211005N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Oct 06 10:48:31 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list13A\V27211013A01.D•

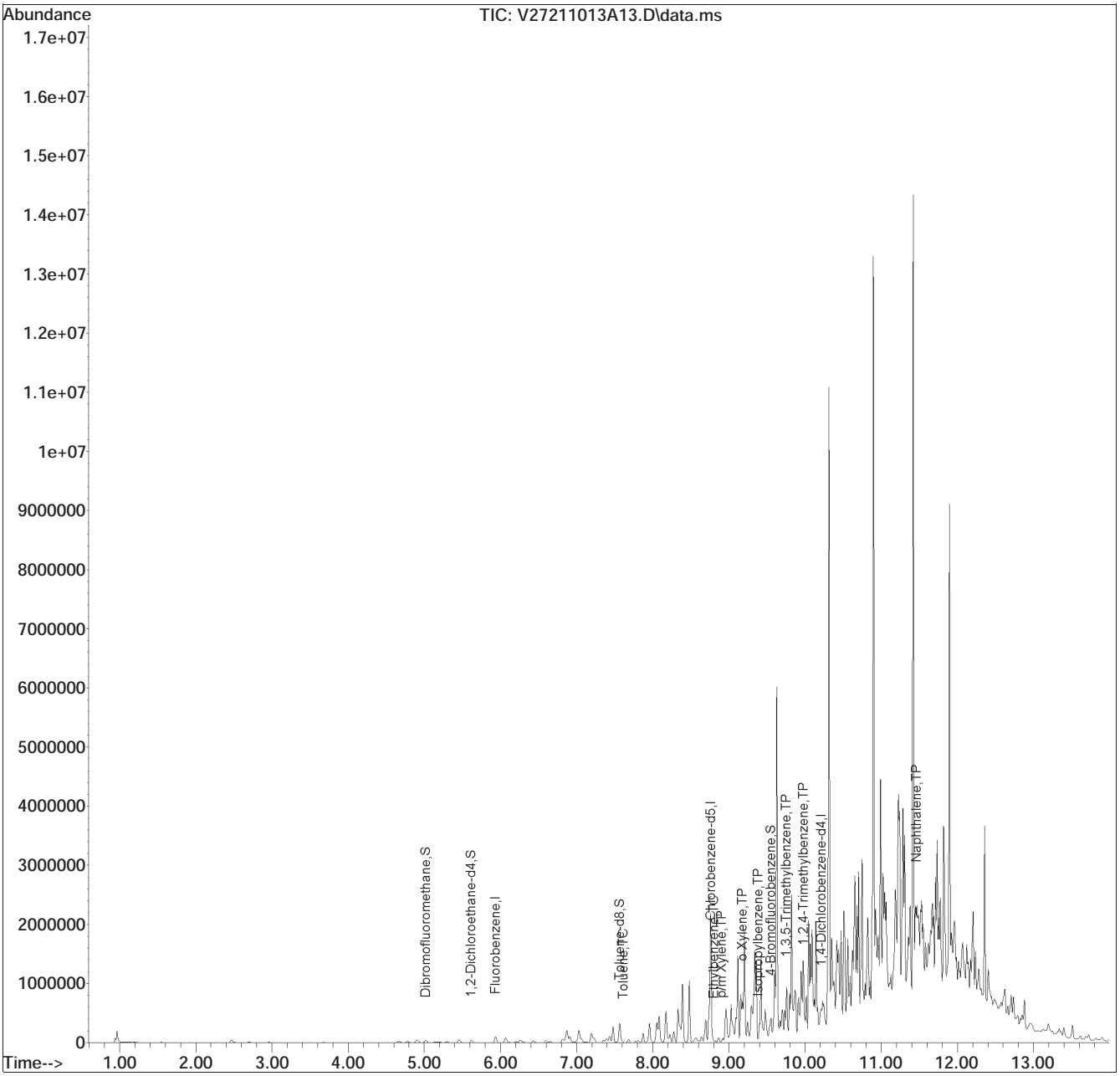


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA127\2021\211013A\
Data File : V27211013A13.D
Acq On : 13 Oct 2021 03:08 pm
Operator : VOA127:AJK
Sample : L2154810-14,31,4.26,5,,B
Misc : WG1558495,ICAL18360
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 13 16:18:54 2021
Quant Method : I:\VOLATILES\VOA127\2021\211013A\V127_211005N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Oct 06 10:48:31 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list13A\V27211013A01.D•



ANALYTICAL REPORT

Lab Number:	L2166670
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.005.03
Report Date:	12/20/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166670
Report Date: 12/20/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2166670-01	PB-16V137-03-SS01	SOIL	PHILADELPHIA, PA	12/03/21 10:45	12/03/21
L2166670-02	PB-16V135-05-SS01	SOIL	PHILADELPHIA, PA	12/03/21 11:40	12/03/21
L2166670-03	PB-884-01-SS01	SOIL	PHILADELPHIA, PA	12/03/21 13:40	12/03/21
L2166670-04	PB-884-02-SS01	SOIL	PHILADELPHIA, PA	12/03/21 13:50	12/03/21
L2166670-05	PB-884-03-SS01	SOIL	PHILADELPHIA, PA	12/03/21 14:00	12/03/21
L2166670-06	PB-884-04-SS01	SOIL	PHILADELPHIA, PA	12/03/21 14:10	12/03/21
L2166670-07	PB-884-11-SS01	SOIL	PHILADELPHIA, PA	12/03/21 14:15	12/03/21
L2166670-08	PB-884-12-SS01	SOIL	PHILADELPHIA, PA	12/03/21 14:25	12/03/21
L2166670-09	PB-884-27-SS01	SOIL	PHILADELPHIA, PA	12/03/21 14:45	12/03/21
L2166670-10	PB-884-28-SS01	SOIL	PHILADELPHIA, PA	12/03/21 14:55	12/03/21
L2166670-11	PB-884-29-SS01	SOIL	PHILADELPHIA, PA	12/03/21 15:10	12/03/21
L2166670-12	DUP-22	SOIL	PHILADELPHIA, PA	12/03/21 00:00	12/03/21
L2166670-13	FB-211203	WATER	PHILADELPHIA, PA	12/03/21 15:30	12/03/21
L2166670-14	TB-211203	WATER	PHILADELPHIA, PA	12/03/21 00:00	12/03/21

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166670
Project Number:	200.00135.005.03	**Report Date:**	12/20/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166670
Project Number:	200.00135.005.03	**Report Date:**	12/20/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2166670-06: The surrogate recoveries are outside the acceptance criteria for toluene-d8 (131%) and 4-bromofluorobenzene (667%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Semivolatile Organics by SIM

L2166670-13: The Field Blank has a concentration above the reporting limit for Phenanthrene. The sample was re-extracted with the method required holding time exceeded and was non-detect for this target compound. The results of both extractions are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 12/20/21

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-03
Client ID: PB-884-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 13:40
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 00:22
Analyst: JC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	0.00030	J	mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00092	0.00024	1
Toluene	0.0010		mg/kg	0.00092	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	0.00023	J	mg/kg	0.00092	0.00013	1
p/m-Xylene	0.0034		mg/kg	0.0018	0.00051	1
o-Xylene	0.0014		mg/kg	0.00092	0.00027	1
Xylenes, Total	0.0048		mg/kg	0.00092	0.00027	1
Isopropylbenzene	0.00072	J	mg/kg	0.00092	0.00010	1
1,3,5-Trimethylbenzene	0.00088	J	mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	0.0024		mg/kg	0.0018	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	123		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-04
Client ID: PB-884-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 13:50
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 18:26
Analyst: NLK
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00098	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00028	1
Xylenes, Total	ND		mg/kg	0.00098	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**131**	Q	70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-05
Client ID: PB-884-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:00
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 18:51
Analyst: NLK
Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00053	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00059	1
o-Xylene	ND		mg/kg	0.0010	0.00031	1
Xylenes, Total	ND		mg/kg	0.0010	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**131**	Q	70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-06
Client ID: PB-884-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 14:10
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 02:27
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00030	J	mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	0.00073	J	mg/kg	0.0021	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	0.00073	J	mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.078		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	0.0045		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	0.015		mg/kg	0.0021	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	**131**	Q	70-130
4-Bromofluorobenzene	**667**	Q	70-130
Dibromofluoromethane	90		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-07
Client ID: PB-884-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:15
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 00:47
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	123		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-08
Client ID: PB-884-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:25
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 19:41
Analyst: NLK
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00024	1
Benzene	ND		mg/kg	0.00059	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00064	1
1,2-Dibromoethane	ND		mg/kg	0.00059	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00066	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**146**	Q	70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-09
Client ID: PB-884-27-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:45
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 01:12
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0010	0.00010	1
Benzene	ND		mg/kg	0.00025	0.00008	1
1,2-Dichloroethane	ND		mg/kg	0.00050	0.00013	1
Toluene	ND		mg/kg	0.00050	0.00027	1
1,2-Dibromoethane	ND		mg/kg	0.00025	0.00015	1
Ethylbenzene	ND		mg/kg	0.00050	0.00007	1
p/m-Xylene	ND		mg/kg	0.0010	0.00028	1
o-Xylene	ND		mg/kg	0.00050	0.00015	1
Xylenes, Total	ND		mg/kg	0.00050	0.00015	1
Isopropylbenzene	ND		mg/kg	0.00050	0.00005	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0010	0.00009	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0010	0.00017	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-10
Client ID: PB-884-28-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 14:55
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 01:37
Analyst: JC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00096	0.00025	1
Toluene	ND		mg/kg	0.00096	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00096	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00096	0.00028	1
Xylenes, Total	ND		mg/kg	0.00096	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00096	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-11
Client ID: PB-884-29-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 15:10
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 02:02
Analyst: JC
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	ND		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00090	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00090	0.00026	1
Xylenes, Total	ND		mg/kg	0.00090	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-12
Client ID: DUP-22
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 00:00
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 21:20
Analyst: NLK
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00031	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00060	1
o-Xylene	ND		mg/kg	0.0011	0.00031	1
Xylenes, Total	ND		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**140**	Q	70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-13
Client ID: FB-211203
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 15:30
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/16/21 15:58
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/16/21 13:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-13
Client ID: FB-211203
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 15:30
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/14/21 09:37
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-14
Client ID: TB-211203
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 00:00
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/16/21 16:06
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/16/21 13:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-14
Client ID: TB-211203
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 00:00
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/14/21 10:04
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/13/21 13:47
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04-05,08,12 Batch: WG1583191-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	124		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/14/21 18:08
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03,06-07,09-11 Batch: WG1583734-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/14/21 09:11
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 13-14 Batch: WG1583756-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 12/16/21 14:43
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/16/21 13:32

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 13-14 Batch: WG1584239-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166670

Report Date: 12/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 04-05,08,12 Batch: WG1583191-3 WG1583191-4								
Methyl tert butyl ether	114		122		66-130	7		30
Benzene	110		114		70-130	4		30
1,2-Dichloroethane	122		**131**	Q	70-130	7		30
Toluene	106		110		70-130	4		30
1,2-Dibromoethane	120		130		70-130	8		30
Ethylbenzene	104		109		70-130	5		30
p/m-Xylene	103		107		70-130	4		30
o-Xylene	103		109		70-130	6		30
Isopropylbenzene	106		111		70-130	5		30
1,3,5-Trimethylbenzene	108		112		70-130	4		30
1,2,4-Trimethylbenzene	109		114		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	121		120		70-130
Toluene-d8	108		108		70-130
4-Bromofluorobenzene	115		115		70-130
Dibromofluoromethane	97		98		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166670

Report Date: 12/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 03,06-07,09-11 Batch: WG1583734-3 WG1583734-4								
Methyl tert butyl ether	99		101		66-130	2		30
Benzene	100		100		70-130	0		30
1,2-Dichloroethane	97		98		70-130	1		30
Toluene	106		105		70-130	1		30
1,2-Dibromoethane	99		100		70-130	1		30
Ethylbenzene	107		106		70-130	1		30
p/m-Xylene	105		105		70-130	0		30
o-Xylene	103		103		70-130	0		30
Isopropylbenzene	112		109		70-130	3		30
1,3,5-Trimethylbenzene	109		106		70-130	3		30
1,2,4-Trimethylbenzene	106		104		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		103		70-130
Toluene-d8	105		106		70-130
4-Bromofluorobenzene	113		110		70-130
Dibromofluoromethane	93		94		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166670

Report Date: 12/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 13-14 Batch: WG1583756-3 WG1583756-4								
Methyl tert butyl ether	85		100		63-130	16		20
Benzene	98		110		70-130	12		20
1,2-Dichloroethane	88		99		70-130	12		20
Toluene	97		100		70-130	3		20
Ethylbenzene	98		100		70-130	2		20
p/m-Xylene	100		105		70-130	5		20
o-Xylene	100		110		70-130	10		20
Isopropylbenzene	88		97		70-130	10		20
1,3,5-Trimethylbenzene	96		110		64-130	14		20
1,2,4-Trimethylbenzene	87		96		70-130	10		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		98		70-130
Toluene-d8	101		99		70-130
4-Bromofluorobenzene	98		98		70-130
Dibromofluoromethane	95		97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166670

Report Date: 12/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 13-14 Batch: WG1584239-2								
1,2-Dibromoethane	92		-		80-120	-		20	A

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-03
Client ID: PB-884-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 13:40
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 10:00
Analyst: ALS
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	0.031	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.053	J	mg/kg	0.12	0.022	1
Chrysene	0.048	J	mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	0.077	J	mg/kg	0.12	0.034	1
Benzo(a)pyrene	0.055	J	mg/kg	0.16	0.049	1
Benzo(ghi)perylene	0.032	J	mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	66		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-04
Client ID: PB-884-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 13:50
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 10:48
Analyst: ALS
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	106		23-120
2-Fluorobiphenyl	89		30-120
4-Terphenyl-d14	87		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-05
Client ID: PB-884-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:00
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 11:12
Analyst: ALS
Percent Solids: 78%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.21	0.025	1
Fluorene	ND		mg/kg	0.21	0.020	1
Phenanthrene	0.033	J	mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	0.055	J	mg/kg	0.12	0.021	1
Benzo(a)anthracene	0.053	J	mg/kg	0.12	0.023	1
Chrysene	0.048	J	mg/kg	0.12	0.022	1
Benzo(b)fluoranthene	0.051	J	mg/kg	0.12	0.035	1
Benzo(a)pyrene	ND		mg/kg	0.17	0.051	1
Benzo(ghi)perylene	ND		mg/kg	0.17	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	109		23-120
2-Fluorobiphenyl	88		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-06
Client ID: PB-884-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:10
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 11:36
Analyst: ALS
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.073	J	mg/kg	0.20	0.025	1
Fluorene	0.35		mg/kg	0.20	0.020	1
Phenanthrene	0.32		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	111		23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	70		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-07
Client ID: PB-884-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:15
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 12:00
Analyst: ALS
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.068	J	mg/kg	0.21	0.025	1
Fluorene	ND		mg/kg	0.21	0.020	1
Phenanthrene	0.065	J	mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	0.091	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.089	J	mg/kg	0.12	0.023	1
Chrysene	0.087	J	mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	0.095	J	mg/kg	0.12	0.035	1
Benzo(a)pyrene	0.074	J	mg/kg	0.16	0.050	1
Benzo(ghi)perylene	0.038	J	mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	67		30-120
4-Terphenyl-d14	63		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-08
Client ID: PB-884-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:25
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 12:49
Analyst: ALS
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	70		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-09
Client ID: PB-884-27-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:45
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 13:13
Analyst: ALS
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	63		30-120
4-Terphenyl-d14	62		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-10
Client ID: PB-884-28-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 14:55
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 13:37
Analyst: ALS
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	0.045	J	mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	0.060	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.042	J	mg/kg	0.12	0.023	1
Chrysene	0.038	J	mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	0.039	J	mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	74		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-11
Client ID: PB-884-29-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 15:10
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 14:01
Analyst: ALS
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.21	0.025	1
Fluorene	ND		mg/kg	0.21	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.021	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.022	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.035	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.051	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	93		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	69		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-12
Client ID: DUP-22
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 00:00
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 14:25
Analyst: ALS
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	105		23-120
2-Fluorobiphenyl	81		30-120
4-Terphenyl-d14	79		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-13
Client ID: FB-211203
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 15:30
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/09/21 16:14
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 12/08/21 21:47

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	0.02	J	ug/l	0.10	0.01	1
Phenanthrene	0.19		ug/l	0.05	0.02	1
Anthracene	0.02	J	ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	82		15-120
4-Terphenyl-d14	88		41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-13 RE
Client ID: FB-211203
Sample Location: PHILADELPHIA, PA

Date Collected: 12/03/21 15:30
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/18/21 15:54
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 12/17/21 13:07

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	0.01	J	ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	65		23-120
2-Fluorobiphenyl	83		15-120
4-Terphenyl-d14	98		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 12/09/21 15:16
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 12/08/21 21:47

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 13 Batch: WG1580888-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	78		15-120
4-Terphenyl-d14	84		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/15/21 07:59
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 03-12 Batch: WG1582958-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.027
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	106		23-120
2-Fluorobiphenyl	91		30-120
4-Terphenyl-d14	95		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 12/18/21 14:55
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 12/17/21 13:07

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 13 Batch: WG1584717-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	0.02	J	ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	0.02	J	ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	61		23-120
2-Fluorobiphenyl	76		15-120
4-Terphenyl-d14	99		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166670
Report Date: 12/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 13 Batch: WG1580888-2 WG1580888-3								
Naphthalene	71		71		40-140	0		40
Fluorene	75		78		40-140	4		40
Phenanthrene	72		75		40-140	4		40
Anthracene	76		79		40-140	4		40
Pyrene	77		80		26-127	4		40
Benzo(a)anthracene	72		79		40-140	9		40
Chrysene	73		76		40-140	4		40
Benzo(b)fluoranthene	74		75		40-140	1		40
Benzo(a)pyrene	75		81		40-140	8		40
Benzo(ghi)perylene	73		78		40-140	7		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	76		76		23-120
2-Fluorobiphenyl	77		78		15-120
4-Terphenyl-d14	81		85		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166670

Report Date: 12/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 03-12 Batch: WG1582958-2 WG1582958-3								
Naphthalene	80		79		40-140	1		50
Fluorene	88		88		40-140	0		50
Phenanthrene	83		84		40-140	1		50
Anthracene	85		84		40-140	1		50
Pyrene	86		86		35-142	0		50
Benzo(a)anthracene	87		86		40-140	1		50
Chrysene	81		81		40-140	0		50
Benzo(b)fluoranthene	82		81		40-140	1		50
Benzo(a)pyrene	74		74		40-140	0		50
Benzo(ghi)perylene	83		81		40-140	2		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	97		98		23-120
2-Fluorobiphenyl	83		84		30-120
4-Terphenyl-d14	88		86		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166670
Report Date: 12/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 13 Batch: WG1584717-2 WG1584717-3								
Naphthalene	68		69		40-140	1		40
Fluorene	80		79		40-140	1		40
Phenanthrene	79		79		40-140	0		40
Anthracene	82		82		40-140	0		40
Pyrene	89		88		26-127	1		40
Benzo(a)anthracene	79		80		40-140	1		40
Chrysene	82		82		40-140	0		40
Benzo(b)fluoranthene	92		91		40-140	1		40
Benzo(a)pyrene	86		86		40-140	0		40
Benzo(ghi)perylene	77		77		40-140	0		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	66		65		23-120
2-Fluorobiphenyl	82		80		15-120
4-Terphenyl-d14	96		94		41-149

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-03
Client ID: PB-884-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 13:40
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	24.5		mg/kg	2.28	0.122	1	12/15/21 06:44	12/16/21 10:34	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-04
Client ID: PB-884-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 13:50
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.62		mg/kg	2.36	0.127	1	12/15/21 06:44	12/16/21 10:39	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-05
Client ID: PB-884-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 14:00
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	8.80		mg/kg	2.49	0.133	1	12/15/21 06:44	12/16/21 10:43	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-06
Client ID: PB-884-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 14:10
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.72		mg/kg	2.43	0.130	1	12/15/21 06:44	12/16/21 10:47	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-07
Client ID: PB-884-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 14:15
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	37.0		mg/kg	2.43	0.130	1	12/15/21 06:44	12/16/21 10:52	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-08
Client ID: PB-884-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 14:25
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.65		mg/kg	2.40	0.129	1	12/15/21 06:44	12/16/21 10:56	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-09
Client ID: PB-884-27-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 14:45
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	11.5		mg/kg	2.41	0.129	1	12/15/21 06:44	12/16/21 11:01	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-10
Client ID: PB-884-28-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 14:55
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	9.37		mg/kg	2.39	0.128	1	12/15/21 06:44	12/16/21 11:05	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-11
Client ID: PB-884-29-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 15:10
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.49		mg/kg	2.47	0.132	1	12/15/21 06:44	12/16/21 11:09	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166670
Project Number: 200.00135.005.03
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-12
Client ID: DUP-22
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 00:00
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	54.3		mg/kg	2.37	0.127	1	12/15/21 06:44	12/16/21 11:14	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-13
Client ID: FB-211203
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 15:30
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	12/14/21 05:12	12/17/21 00:23	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 13 Batch: WG1582832-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	12/14/21 05:12	12/16/21 23:54	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 03-12 Batch: WG1583047-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	12/15/21 06:44	12/16/21 08:15	1,6010D	EW

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166670

Report Date: 12/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 13 Batch: WG1582832-2								
Lead, Total	100		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 03-12 Batch: WG1583047-2 SRM Lot Number: D113-540								
Lead, Total	92		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166670
Report Date: 12/20/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 13 QC Batch ID: WG1582832-3 WG1582832-4 QC Sample: L2167147-05 Client ID: MS Sample												
Lead, Total	1.973	530	492.8	93		482.8	91		75-125	2		20
Total Metals - Mansfield Lab Associated sample(s): 03-12 QC Batch ID: WG1583047-3 QC Sample: L2168261-01 Client ID: MS Sample												
Lead, Total	1.67J	45.3	23.4	**52**	Q	-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166670

Report Date: 12/20/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 03-12 QC Batch ID: WG1583047-4 QC Sample: L2168261-01 Client ID: DUP Sample						
Lead, Total	1.67J	1.93J	mg/kg	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-01
Client ID: PB-16V137-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/03/21 10:45
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	10.0		SU	-	NA	1	-	12/14/21 20:15	1,9045D	AS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-02
Client ID: PB-16V135-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/03/21 11:40
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	11.6		SU	-	NA	1	-	12/14/21 20:15	1,9045D	AS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-03
Client ID: PB-884-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/03/21 13:40
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.6		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-04
Client ID: PB-884-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/03/21 13:50
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.3		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-05
Client ID: PB-884-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/03/21 14:00
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.0		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-06
Client ID: PB-884-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/03/21 14:10
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.5		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-07
Client ID: PB-884-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/03/21 14:15
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.8		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-08
Client ID: PB-884-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/03/21 14:25
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.7		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-09
Client ID: PB-884-27-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/03/21 14:45
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.0		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-10
Client ID: PB-884-28-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/03/21 14:55
Date Received: 12/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.3		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-11
Client ID: PB-884-29-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/03/21 15:10
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.3		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-12
Client ID: DUP-22
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/03/21 00:00
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.1		%	0.100	NA	1	-	12/04/21 11:20	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166670
Report Date: 12/20/21

SAMPLE RESULTS

Lab ID: L2166670-13
Client ID: FB-211203
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Water

Date Collected: 12/03/21 15:30
Date Received: 12/03/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.8		SU	-	NA	1	-	12/06/21 20:55	1,9040C	RM

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166670

Report Date: 12/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 13 Batch: WG1579826-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1583314-1								
pH	100		-		99-101	-		

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166670

Report Date: 12/20/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 03-12 QC Batch ID: WG1579122-1 QC Sample: L2166670-03 Client ID: PB-884-01-SS01						
Solids, Total	82.6	81.4	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 13 QC Batch ID: WG1579826-2 QC Sample: L2166391-01 Client ID: DUP Sample						
pH	6.9	7.0	SU	1		5
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1583314-2 QC Sample: L2168239-01 Client ID: DUP Sample						
pH	8.6	8.2	SU	5		5

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166670
Report Date: 12/20/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2166670-01A	Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		PH-9045(1)
L2166670-02A	Glass 120ml/4oz unpreserved	A	NA		4.2	Y	Absent		PH-9045(1)
L2166670-03A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2166670-03B	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-03C	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-03D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2166670-03E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2166670-03F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2166670-04A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2166670-04B	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-04C	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-04D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2166670-04E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2166670-04F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2166670-05A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2166670-05B	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-05C	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-05D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2166670-05E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2166670-05F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2166670-06A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2166670-06B	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2166670-06C	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-06D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2166670-06E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2166670-06F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2166670-07A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2166670-07B	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-07C	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-07D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2166670-07E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2166670-07F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2166670-08A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2166670-08B	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-08C	Vial water preserved	B	NA		2.1	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-08D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2166670-08E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2166670-08F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2166670-09A	Vial MeOH preserved	A	NA		4.2	Y	Absent		PA-8260HLW(14)
L2166670-09B	Vial water preserved	A	NA		4.2	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-09C	Vial water preserved	A	NA		4.2	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-09D	Plastic 2oz unpreserved for TS	A	NA		4.2	Y	Absent		TS(7)
L2166670-09E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		PB-TI(180)
L2166670-09F	Glass 120ml/4oz unpreserved	A	NA		4.2	Y	Absent		PA-PAH(14)
L2166670-10A	Vial MeOH preserved	A	NA		4.2	Y	Absent		PA-8260HLW(14)
L2166670-10B	Vial water preserved	A	NA		4.2	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-10C	Vial water preserved	A	NA		4.2	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-10D	Plastic 2oz unpreserved for TS	A	NA		4.2	Y	Absent		TS(7)
L2166670-10E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		PB-TI(180)
L2166670-10F	Glass 120ml/4oz unpreserved	A	NA		4.2	Y	Absent		PA-PAH(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166670
Report Date: 12/20/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2166670-11A	Vial MeOH preserved	A	NA		4.2	Y	Absent		PA-8260HLW(14)
L2166670-11B	Vial water preserved	A	NA		4.2	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-11C	Vial water preserved	A	NA		4.2	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-11D	Plastic 2oz unpreserved for TS	A	NA		4.2	Y	Absent		TS(7)
L2166670-11E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		PB-TI(180)
L2166670-11F	Glass 120ml/4oz unpreserved	A	NA		4.2	Y	Absent		PA-PAH(14)
L2166670-12A	Vial MeOH preserved	A	NA		4.2	Y	Absent		PA-8260HLW(14)
L2166670-12B	Vial water preserved	A	NA		4.2	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-12C	Vial water preserved	A	NA		4.2	Y	Absent	04-DEC-21 11:52	PA-8260HLW(14)
L2166670-12D	Plastic 2oz unpreserved for TS	A	NA		4.2	Y	Absent		TS(7)
L2166670-12E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		PB-TI(180)
L2166670-12F	Glass 120ml/4oz unpreserved	A	NA		4.2	Y	Absent		PA-PAH(14)
L2166670-13A	Vial HCl preserved	A	NA		4.2	Y	Absent		PA-8260(14)
L2166670-13B	Vial HCl preserved	A	NA		4.2	Y	Absent		PA-8260(14)
L2166670-13C	Vial HCl preserved	A	NA		4.2	Y	Absent		8011(14)
L2166670-13D	Plastic 250ml HNO3 preserved	A	<2	<2	4.2	Y	Absent		PH-9040(1)
L2166670-13E	Plastic 250ml unpreserved	A	7	7	4.2	Y	Absent		PB-6020T-PPB(180)
L2166670-13F	Plastic 250ml unpreserved	A	7	7	4.2	Y	Absent		PA-PAHSIM-LVI(7)
L2166670-13G	Amber 250ml unpreserved	A	7	7	4.2	Y	Absent		PA-PAHSIM-LVI(7)
L2166670-14A	Vial HCl preserved	A	NA		4.2	Y	Absent		PA-8260(14)
L2166670-14B	Vial HCl preserved	A	NA		4.2	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166670
Project Number:	200.00135.005.03	**Report Date:**	12/20/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166670
Project Number:	200.00135.005.03	**Report Date:**	12/20/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166670
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Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166670
Project Number:	200.00135.005.03	**Report Date:**	12/20/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/4/21 | ALPHA Job #: L2106070

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist		Sample Specific Comments	TOTAL # BOTTLES
L2106070-01	PB-1037-03-5501	12/3	1045	S	TS	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐		1
02	PB-1035-05-5501		1140	S	TS	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐		1
03	PB-884-01-5501		1340	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
04	PB-884-02-5501		1350	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
05	PB-884-03-5501		1400	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
06	PB-884-04-5501		1410	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
07	PB-884-11-5501		1415	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
08	PB-884-12-5501		1425	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
09	PB-884-27-5501		1445	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
10	PB-884-28-5501		1455	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
	Container Type					G	G	G	-	-	-	-	-	-	-	-	-		
	Preservative					F	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	12/3 1616		
	12/4 700		
	12-3 2100	Paul Mazzella	12/3/21 2120
Paul Mazzella	12/4/21 0220		12/4/21 0220

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/4/21

ALPHA Job #: L2160670

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist (1-5)		Sample Specific Comments	TOTAL # BOTTLES
L2160670-11	PB-884-29-5501	12/3	1510	S	TS	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
12	DUP-22	12/3	-	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
13	FB-211203	12/3	1530	W	TS	☑	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐		7
14	TB-211203	12/3	-	W	TS	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐		2
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		

Container Type	G	G	G	-	-	-	-	-	-	-	-	-		
Preservative	F	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	12/3 1618		12/3/21 1618
	12/4 1210		
	12/3 2100	Paul Mazzella	12/3/21

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-N,I)
(rev. 5-JAN-12)

Paul Mazzella 12/4/21 0220 12/4/21 0220

PADEP Short List Analytical List:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

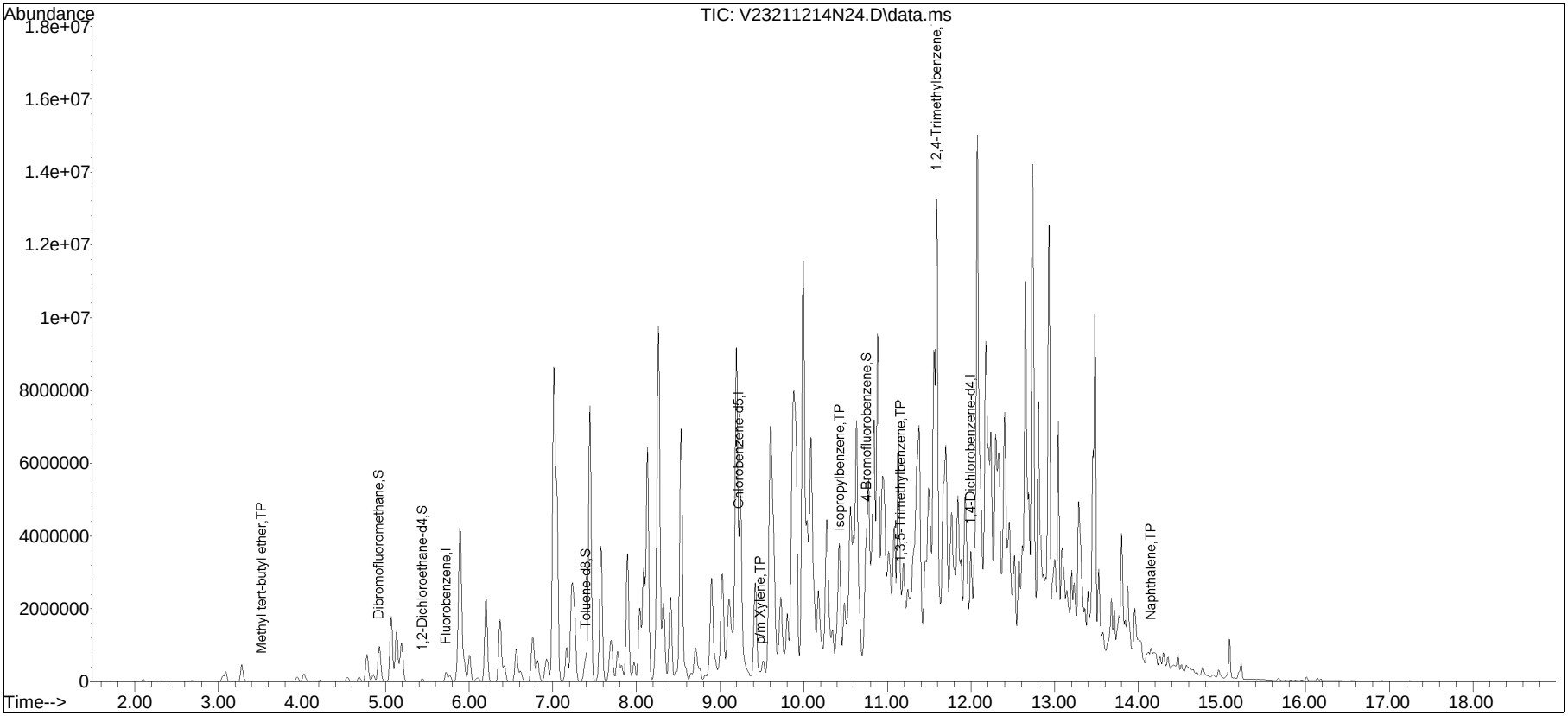
6. Waste Oil – benzene, toluene, ethyl benzene, cumene, naphthalene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, lead

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA123\2021\211214N\
Data File : V23211214N24.D
Acq On : 15 Dec 2021 02:27 am
Operator : VOA123:JC
Sample : L2166670-06,31,6.00,5,,B
Misc : WG1583734,ICAL18401
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Dec 15 08:01:25 2021
Quant Method : I:\VOLATILES\VOA123\2021\211214N\V123_211020N_8260D.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Oct 21 08:44:24 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list14N\V23211214N01.D•



ANALYTICAL REPORT

Lab Number:	L2166871
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.005.03
Report Date:	12/21/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166871
Report Date: 12/21/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2166871-01	PB-884-22-SS01	SOIL	PHILADELPHIA, PA	12/06/21 10:20	12/06/21
L2166871-02	PB-884-07-SS01	SOIL	PHILADELPHIA, PA	12/06/21 10:45	12/06/21
L2166871-03	PB-884-05-SS01	SOIL	PHILADELPHIA, PA	12/06/21 11:00	12/06/21
L2166871-04	PB-884-06-SS01	SOIL	PHILADELPHIA, PA	12/06/21 11:30	12/06/21
L2166871-05	PB-884-26-SS01	SOIL	PHILADELPHIA, PA	12/06/21 12:00	12/06/21
L2166871-06	PB-884-10-SS01	SOIL	PHILADELPHIA, PA	12/06/21 12:20	12/06/21
L2166871-07	PB-885-01-SS01	SOIL	PHILADELPHIA, PA	12/06/21 13:20	12/06/21
L2166871-08	PB-885-02-SS01	SOIL	PHILADELPHIA, PA	12/06/21 13:30	12/06/21
L2166871-09	PB-885-07-SS01	SOIL	PHILADELPHIA, PA	12/06/21 13:45	12/06/21
L2166871-10	PB-885-16-SS01	SOIL	PHILADELPHIA, PA	12/06/21 14:00	12/06/21
L2166871-11	PB-885-03-SS01	SOIL	PHILADELPHIA, PA	12/06/21 14:10	12/06/21
L2166871-12	PB-885-08-SS01	SOIL	PHILADELPHIA, PA	12/06/21 14:20	12/06/21
L2166871-13	PB-885-09-SS01	SOIL	PHILADELPHIA, PA	12/06/21 14:30	12/06/21
L2166871-14	PB-885-10-SS01	SOIL	PHILADELPHIA, PA	12/06/21 14:40	12/06/21
L2166871-15	PB-885-11-SS01	SOIL	PHILADELPHIA, PA	12/06/21 14:50	12/06/21
L2166871-16	FB-211206	WATER	PHILADELPHIA, PA	12/06/21 15:00	12/06/21

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166871
Project Number:	200.00135.005.03	**Report Date:**	12/21/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166871
Project Number:	200.00135.005.03	**Report Date:**	12/21/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2166871-04: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (152%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Semivolatile Organics

L2166871-12: The sample has elevated detection limits due to the dilution required by matrix interferences encountered during the concentration of the sample.

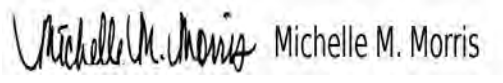
Semivolatile Organics by SIM

The WG1582162-1 Method Blank, associated with L2166871-16, has a concentration above the reporting limit for Naphthalene and Phenanthrene. Since the associated sample concentrations are either greater than 10x the blank concentration or non-detect to the RL for this target analyte, no corrective action is required. Any results detected below the reporting limit are qualified with a "B".

Total Metals

L2166871-04, -07, -08, and -10: The sample has an elevated detection limit due to the dilution required by matrix interferences encountered during analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Michelle M. Morris

Title: Technical Director/Representative Date: 12/21/21

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-01
Client ID: PB-884-22-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 10:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 19:43
Analyst: MV
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0026	0.00027	1
Benzene	ND		mg/kg	0.00066	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00034	1
Toluene	ND		mg/kg	0.0013	0.00072	1
1,2-Dibromoethane	ND		mg/kg	0.00066	0.00039	1
Ethylbenzene	ND		mg/kg	0.0013	0.00019	1
p/m-Xylene	ND		mg/kg	0.0026	0.00074	1
o-Xylene	ND		mg/kg	0.0013	0.00038	1
Xylenes, Total	ND		mg/kg	0.0013	0.00038	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0026	0.00026	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0026	0.00044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-02
Client ID: PB-884-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 10:45
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 06:45
Analyst: MV
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0027	0.00027	1
Benzene	ND		mg/kg	0.00066	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00034	1
Toluene	ND		mg/kg	0.0013	0.00072	1
1,2-Dibromoethane	ND		mg/kg	0.00066	0.00039	1
Ethylbenzene	ND		mg/kg	0.0013	0.00019	1
p/m-Xylene	ND		mg/kg	0.0027	0.00074	1
o-Xylene	ND		mg/kg	0.0013	0.00039	1
Xylenes, Total	ND		mg/kg	0.0013	0.00039	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0027	0.00026	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0027	0.00044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	112		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-03
Client ID: PB-884-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 11:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 20:37
Analyst: MV
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0032	0.00032	1
Benzene	ND		mg/kg	0.00080	0.00027	1
1,2-Dichloroethane	ND		mg/kg	0.0016	0.00041	1
Toluene	ND		mg/kg	0.0016	0.00087	1
1,2-Dibromoethane	ND		mg/kg	0.00080	0.00047	1
Ethylbenzene	ND		mg/kg	0.0016	0.00023	1
p/m-Xylene	ND		mg/kg	0.0032	0.00090	1
o-Xylene	ND		mg/kg	0.0016	0.00047	1
Xylenes, Total	ND		mg/kg	0.0016	0.00047	1
Isopropylbenzene	ND		mg/kg	0.0016	0.00017	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0032	0.00031	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0032	0.00054	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-04
Client ID: PB-884-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 11:30
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/16/21 19:44
Analyst: AJK
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	0.00030	J	mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	0.00069	J	mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	0.00052	J	mg/kg	0.00090	0.00013	1
p/m-Xylene	0.0012	J	mg/kg	0.0018	0.00051	1
o-Xylene	0.00073	J	mg/kg	0.00090	0.00026	1
Xylenes, Total	0.0019	J	mg/kg	0.00090	0.00026	1
Isopropylbenzene	0.00039	J	mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	0.0042		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	0.0064		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	**152**	Q	70-130
Dibromofluoromethane	109		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-05
Client ID: PB-884-26-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 12:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 21:04
Analyst: MV
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00060	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00065	1
1,2-Dibromoethane	ND		mg/kg	0.00060	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00067	1
o-Xylene	ND		mg/kg	0.0012	0.00035	1
Xylenes, Total	ND		mg/kg	0.0012	0.00035	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00040	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	107		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-06
Client ID: PB-884-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 12:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 21:31
Analyst: MV
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00053	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00027	1
Toluene	ND		mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00060	1
o-Xylene	ND		mg/kg	0.0011	0.00031	1
Xylenes, Total	ND		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-07
Client ID: PB-885-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 13:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 21:58
Analyst: MV
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-08
Client ID: PB-885-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 13:30
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 22:26
Analyst: MV
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00099	0.00025	1
Toluene	ND		mg/kg	0.00099	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.00099	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.00099	0.00029	1
Xylenes, Total	ND		mg/kg	0.00099	0.00029	1
Isopropylbenzene	ND		mg/kg	0.00099	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-09
Client ID: PB-885-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 13:45
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 22:53
Analyst: MV
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00056	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00061	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-10
Client ID: PB-885-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 23:21
Analyst: MV
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00056	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00061	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00063	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-11
Client ID: PB-885-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:10
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/13/21 23:48
Analyst: MV
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00061	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-12
Client ID: PB-885-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 18:33
Analyst: JC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00042	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00083	0.00021	1
Toluene	ND		mg/kg	0.00083	0.00045	1
1,2-Dibromoethane	ND		mg/kg	0.00042	0.00024	1
Ethylbenzene	ND		mg/kg	0.00083	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00047	1
o-Xylene	ND		mg/kg	0.00083	0.00024	1
Xylenes, Total	ND		mg/kg	0.00083	0.00024	1
Isopropylbenzene	ND		mg/kg	0.00083	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	89		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-13
Client ID: PB-885-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 14:30
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 18:54
Analyst: JC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	86		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-14
Client ID: PB-885-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 14:40
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 19:14
Analyst: JC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00064	1
o-Xylene	ND		mg/kg	0.0012	0.00033	1
Xylenes, Total	ND		mg/kg	0.0012	0.00033	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	88		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-15
Client ID: PB-885-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:50
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/15/21 19:35
Analyst: JC
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00053	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00027	1
Toluene	ND		mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00059	1
o-Xylene	ND		mg/kg	0.0011	0.00031	1
Xylenes, Total	ND		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	87		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-16
Client ID: FB-211206
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 15:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/16/21 16:57
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/16/21 13:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-16
Client ID: FB-211206
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 15:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/16/21 09:31
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	111		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2166871

Project Number: 200.00135.005.03 **Report Date:** 12/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/13/21 16:33
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,03,05-11 Batch: WG1582904-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2166871

Project Number: 200.00135.005.03 **Report Date:** 12/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/15/21 06:20
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1583937-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/15/21 18:13
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 12-15 Batch: WG1584189-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	85		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 12/16/21 14:43
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/16/21 13:32

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 16 Batch: WG1584239-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2166871

Project Number: 200.00135.005.03 **Report Date:** 12/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/16/21 08:21
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 16 Batch: WG1584334-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	112		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/16/21 11:47
Analyst: KTD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04 Batch: WG1584805-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	108		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166871

Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,03,05-11 Batch: WG1582904-3 WG1582904-4								
Methyl tert butyl ether	83		83		66-130	0		30
Benzene	106		102		70-130	4		30
1,2-Dichloroethane	88		88		70-130	0		30
Toluene	110		105		70-130	5		30
1,2-Dibromoethane	87		86		70-130	1		30
Ethylbenzene	111		108		70-130	3		30
p/m-Xylene	114		113		70-130	1		30
o-Xylene	110		110		70-130	0		30
Isopropylbenzene	117		116		70-130	1		30
1,3,5-Trimethylbenzene	113		112		70-130	1		30
1,2,4-Trimethylbenzene	109		108		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	91		91		70-130
Toluene-d8	103		103		70-130
4-Bromofluorobenzene	89		90		70-130
Dibromofluoromethane	98		98		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166871

Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1583937-3 WG1583937-4								
Methyl tert butyl ether	98		103		66-130	5		30
Benzene	95		93		70-130	2		30
1,2-Dichloroethane	95		97		70-130	2		30
Toluene	99		97		70-130	2		30
1,2-Dibromoethane	106		112		70-130	6		30
Ethylbenzene	100		98		70-130	2		30
p/m-Xylene	103		100		70-130	3		30
o-Xylene	102		100		70-130	2		30
Isopropylbenzene	104		99		70-130	5		30
1,3,5-Trimethylbenzene	104		100		70-130	4		30
1,2,4-Trimethylbenzene	105		101		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		99		70-130
Toluene-d8	102		102		70-130
4-Bromofluorobenzene	99		99		70-130
Dibromofluoromethane	95		95		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166871

Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 12-15 Batch: WG1584189-3 WG1584189-4								
Methyl tert butyl ether	114		117		66-130	3		30
Benzene	103		106		70-130	3		30
1,2-Dichloroethane	86		88		70-130	2		30
Toluene	102		103		70-130	1		30
1,2-Dibromoethane	94		96		70-130	2		30
Ethylbenzene	101		103		70-130	2		30
p/m-Xylene	102		104		70-130	2		30
o-Xylene	99		101		70-130	2		30
Isopropylbenzene	106		107		70-130	1		30
1,3,5-Trimethylbenzene	103		104		70-130	1		30
1,2,4-Trimethylbenzene	102		103		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	87		87		70-130
Toluene-d8	102		100		70-130
4-Bromofluorobenzene	100		101		70-130
Dibromofluoromethane	85		85		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166871

Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 16		Batch: WG1584239-2						
1,2-Dibromoethane	92		-		80-120	-		20	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166871
Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16 Batch: WG1584334-3 WG1584334-4								
Methyl tert butyl ether	95		100		63-130	5		20
Benzene	100		110		70-130	10		20
1,2-Dichloroethane	110		110		70-130	0		20
Toluene	100		110		70-130	10		20
Ethylbenzene	110		110		70-130	0		20
p/m-Xylene	105		105		70-130	0		20
o-Xylene	105		105		70-130	0		20
Isopropylbenzene	100		110		70-130	10		20
1,3,5-Trimethylbenzene	96		100		64-130	4		20
1,2,4-Trimethylbenzene	96		100		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		108		70-130
Toluene-d8	104		103		70-130
4-Bromofluorobenzene	99		100		70-130
Dibromofluoromethane	104		102		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166871

Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 04 Batch: WG1584805-3 WG1584805-4								
Methyl tert butyl ether	102		100		66-130	2		30
Benzene	99		97		70-130	2		30
1,2-Dichloroethane	96		94		70-130	2		30
Toluene	100		99		70-130	1		30
1,2-Dibromoethane	104		105		70-130	1		30
Ethylbenzene	102		102		70-130	0		30
p/m-Xylene	106		104		70-130	2		30
o-Xylene	106		106		70-130	0		30
Isopropylbenzene	106		101		70-130	5		30
1,3,5-Trimethylbenzene	108		104		70-130	4		30
1,2,4-Trimethylbenzene	108		103		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		92		70-130
Toluene-d8	102		103		70-130
4-Bromofluorobenzene	99		95		70-130
Dibromofluoromethane	97		97		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-01
Client ID: PB-884-22-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 10:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 18:01
Analyst: ALS
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.044	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	112		23-120
2-Fluorobiphenyl	92		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-02
Client ID: PB-884-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 10:45
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 18:25
Analyst: ALS
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.021	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	0.043	J	mg/kg	0.10	0.018	1
Benzo(a)anthracene	0.030	J	mg/kg	0.10	0.020	1
Chrysene	0.021	J	mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	109		23-120
2-Fluorobiphenyl	91		30-120
4-Terphenyl-d14	91		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-03
Client ID: PB-884-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 11:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/16/21 17:24
Analyst: IM
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	73		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-04
Client ID: PB-884-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 11:30
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 18:49
Analyst: ALS
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	0.065	J	mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	0.039	J	mg/kg	0.10	0.017	1
Benzo(a)anthracene	0.028	J	mg/kg	0.10	0.019	1
Chrysene	0.027	J	mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	97		23-120
2-Fluorobiphenyl	79		30-120
4-Terphenyl-d14	75		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-05
Client ID: PB-884-26-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 12:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/16/21 17:48
Analyst: IM
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	0.025	J	mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	75		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-06
Client ID: PB-884-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 12:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 14:23
Analyst: SLR
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	73		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-07
Client ID: PB-885-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 13:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/16/21 02:08
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	101		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	84		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-08
Client ID: PB-885-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 13:30
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 14:46
Analyst: SLR
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.031	J	mg/kg	0.12	0.022	1
Chrysene	0.036	J	mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.075	J	mg/kg	0.12	0.032	1
Benzo(a)pyrene	0.054	J	mg/kg	0.15	0.047	1
Benzo(ghi)perylene	0.048	J	mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	60		23-120
2-Fluorobiphenyl	61		30-120
4-Terphenyl-d14	57		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-09
Client ID: PB-885-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 13:45
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 15:10
Analyst: SLR
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	77		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-10
Client ID: PB-885-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/16/21 00:08
Analyst: SLR
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	98		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	80		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-11
Client ID: PB-885-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:10
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 15:34
Analyst: SLR
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 09:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	65		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-12
Client ID: PB-885-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 15:57
Analyst: SLR
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 09:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.35	0.043	2
Fluorene	ND		mg/kg	0.35	0.034	2
Phenanthrene	ND		mg/kg	0.21	0.043	2
Anthracene	ND		mg/kg	0.21	0.069	2
Pyrene	ND		mg/kg	0.21	0.035	2
Benzo(a)anthracene	ND		mg/kg	0.21	0.040	2
Chrysene	ND		mg/kg	0.21	0.037	2
Benzo(b)fluoranthene	ND		mg/kg	0.21	0.060	2
Benzo(a)pyrene	ND		mg/kg	0.28	0.086	2
Benzo(ghi)perylene	ND		mg/kg	0.28	0.042	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	51		23-120
2-Fluorobiphenyl	50		30-120
4-Terphenyl-d14	45		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-13
Client ID: PB-885-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:30
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/15/21 23:44
Analyst: SLR
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 09:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	75		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-14
Client ID: PB-885-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:40
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/16/21 02:56
Analyst: SLR
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 09:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.021	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	99		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	78		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-15
Client ID: PB-885-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 14:50
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/16/21 00:32
Analyst: SLR
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 12/14/21 09:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.21	0.025	1
Fluorene	ND		mg/kg	0.21	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.041	1
Pyrene	ND		mg/kg	0.12	0.021	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.024	1
Chrysene	ND		mg/kg	0.12	0.022	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.035	1
Benzo(a)pyrene	ND		mg/kg	0.17	0.051	1
Benzo(ghi)perylene	ND		mg/kg	0.17	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	96		23-120
2-Fluorobiphenyl	76		30-120
4-Terphenyl-d14	75		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-16
Client ID: FB-211206
Sample Location: PHILADELPHIA, PA

Date Collected: 12/06/21 15:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/13/21 12:29
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 12/11/21 21:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	64		23-120
2-Fluorobiphenyl	82		15-120
4-Terphenyl-d14	104		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 12/14/21 17:24
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 12/11/21 21:11

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 16 Batch: WG1582162-1					
Naphthalene	0.12		ug/l	0.10	0.05
Fluorene	0.01	J	ug/l	0.10	0.01
Phenanthrene	0.10		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	0.02	J	ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	59		23-120
2-Fluorobiphenyl	73		15-120
4-Terphenyl-d14	72		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/15/21 07:59
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 12/14/21 08:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-10 Batch: WG1582958-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.027
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	106		23-120
2-Fluorobiphenyl	91		30-120
4-Terphenyl-d14	95		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/15/21 23:18
Analyst: SLR

Extraction Method: EPA 3546
Extraction Date: 12/14/21 09:53

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 11-15 Batch: WG1583017-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.027
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	91		30-120
4-Terphenyl-d14	95		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166871
Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 16 Batch: WG1582162-2 WG1582162-3								
Naphthalene	78		87		40-140	11		40
Fluorene	93		95		40-140	2		40
Phenanthrene	91		92		40-140	1		40
Anthracene	96		97		40-140	1		40
Pyrene	105		104		26-127	1		40
Benzo(a)anthracene	99		97		40-140	2		40
Chrysene	92		92		40-140	0		40
Benzo(b)fluoranthene	109		109		40-140	0		40
Benzo(a)pyrene	105		103		40-140	2		40
Benzo(ghi)perylene	90		88		40-140	2		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	68		77		23-120
2-Fluorobiphenyl	88		97		15-120
4-Terphenyl-d14	114		112		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166871

Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 Batch: WG1582958-2 WG1582958-3								
Naphthalene	80		79		40-140	1		50
Fluorene	88		88		40-140	0		50
Phenanthrene	83		84		40-140	1		50
Anthracene	85		84		40-140	1		50
Pyrene	86		86		35-142	0		50
Benzo(a)anthracene	87		86		40-140	1		50
Chrysene	81		81		40-140	0		50
Benzo(b)fluoranthene	82		81		40-140	1		50
Benzo(a)pyrene	74		74		40-140	0		50
Benzo(ghi)perylene	83		81		40-140	2		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	97		98		23-120
2-Fluorobiphenyl	83		84		30-120
4-Terphenyl-d14	88		86		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166871
Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 11-15 Batch: WG1583017-2 WG1583017-3								
Naphthalene	84		75		40-140	11		50
Fluorene	88		80		40-140	10		50
Phenanthrene	87		78		40-140	11		50
Anthracene	86		79		40-140	8		50
Pyrene	86		76		35-142	12		50
Benzo(a)anthracene	93		82		40-140	13		50
Chrysene	89		80		40-140	11		50
Benzo(b)fluoranthene	95		88		40-140	8		50
Benzo(a)pyrene	90		81		40-140	11		50
Benzo(ghi)perylene	102		88		40-140	15		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	78		71		23-120
2-Fluorobiphenyl	90		78		30-120
4-Terphenyl-d14	91		81		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-01
Client ID: PB-884-22-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 10:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.77		mg/kg	2.16	0.116	1	12/16/21 07:20	12/19/21 15:28	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-02
Client ID: PB-884-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 10:45
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.61		mg/kg	2.04	0.110	1	12/16/21 07:20	12/19/21 15:33	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-03
Client ID: PB-884-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 11:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.38		mg/kg	2.03	0.109	1	12/16/21 07:20	12/19/21 15:38	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-04
Client ID: PB-884-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 11:30
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	89.0		mg/kg	9.96	0.534	5	12/16/21 07:20	12/19/21 17:55	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-05
Client ID: PB-884-26-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 12:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	26.5		mg/kg	2.31	0.124	1	12/16/21 07:20	12/19/21 15:47	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-06
Client ID: PB-884-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 12:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.58		mg/kg	1.99	0.107	1	12/16/21 07:20	12/19/21 15:52	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-07
Client ID: PB-885-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 13:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	150		mg/kg	11.1	0.597	5	12/16/21 07:20	12/19/21 17:59	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-08
Client ID: PB-885-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 13:30
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	43.9		mg/kg	11.3	0.604	5	12/16/21 07:20	12/19/21 18:04	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-09
Client ID: PB-885-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 13:45
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	17.4		mg/kg	2.15	0.115	1	12/16/21 07:20	12/19/21 16:07	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-10
Client ID: PB-885-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 14:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	8.76	J	mg/kg	11.4	0.613	5	12/16/21 07:20	12/19/21 18:21	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-11
Client ID: PB-885-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 14:10
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.68		mg/kg	2.05	0.110	1	12/16/21 07:20	12/19/21 17:21	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-12
Client ID: PB-885-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 14:20
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	9.07		mg/kg	2.01	0.108	1	12/16/21 07:20	12/19/21 17:26	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-13
Client ID: PB-885-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 14:30
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.61		mg/kg	2.39	0.128	1	12/16/21 07:20	12/19/21 17:31	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-14
Client ID: PB-885-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 14:40
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.04		mg/kg	2.03	0.109	1	12/16/21 07:20	12/19/21 17:35	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-15
Client ID: PB-885-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 14:50
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.43		mg/kg	2.50	0.134	1	12/16/21 07:20	12/19/21 17:50	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2166871
Project Number: 200.00135.005.03
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-16
Client ID: FB-211206
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 15:00
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	12/14/21 05:12	12/17/21 02:24	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 16 Batch: WG1582832-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	12/14/21 05:12	12/16/21 23:54	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-15 Batch: WG1583249-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	12/16/21 07:20	12/19/21 14:27	1,6010D	DL

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166871

Report Date: 12/21/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 16 Batch: WG1582832-2								
Lead, Total	100		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-15 Batch: WG1583249-2 SRM Lot Number: D113-540								
Lead, Total	85		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166871
Report Date: 12/21/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 16 QC Batch ID: WG1582832-3 WG1582832-4 QC Sample: L2167147-05 Client ID: MS Sample												
Lead, Total	1.973	530	492.8	93		482.8	91		75-125	2		20
Total Metals - Mansfield Lab Associated sample(s): 01-15 QC Batch ID: WG1583249-3 QC Sample: L2166856-01 Client ID: MS Sample												
Lead, Total	39.1	182	173	**74**	Q	-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166871

Report Date: 12/21/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-15 QC Batch ID: WG1583249-4 QC Sample: L2166856-01 Client ID: DUP Sample						
Lead, Total	39.1	41.2	mg/kg	5		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-01
Client ID: PB-884-22-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/06/21 10:20
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.1		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-02
Client ID: PB-884-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/06/21 10:45
Date Received: 12/06/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.1		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-03
Client ID: PB-884-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/06/21 11:00
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.5		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-04
Client ID: PB-884-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/06/21 11:30
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.5		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-05
Client ID: PB-884-26-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/06/21 12:00
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-06
Client ID: PB-884-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/06/21 12:20
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.4		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-07
Client ID: PB-885-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/06/21 13:20
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.6		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-08
Client ID: PB-885-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/06/21 13:30
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.0		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-09
Client ID: PB-885-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/06/21 13:45
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.1		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-10
Client ID: PB-885-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/06/21 14:00
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-11
Client ID: PB-885-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/06/21 14:10
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.9		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-12
Client ID: PB-885-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/06/21 14:20
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.7		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-13
Client ID: PB-885-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/06/21 14:30
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.8		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-14
Client ID: PB-885-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/06/21 14:40
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.1		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2166871
Report Date: 12/21/21

SAMPLE RESULTS

Lab ID: L2166871-15
Client ID: PB-885-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/06/21 14:50
Date Received: 12/06/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.7		%	0.100	NA	1	-	12/08/21 08:09	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2166871

Report Date: 12/21/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-15 QC Batch ID: WG1580494-1 QC Sample: L2166871-01 Client ID: PB-884-22-SS01						
Solids, Total	91.1	89.4	%	2		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166871
Report Date: 12/21/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2166871-01A	Vial MeOH preserved	A	NA		2.8	Y	Absent		PA-8260HLW(14)
L2166871-01B	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-01C	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-01D	Plastic 2oz unpreserved for TS	A	NA		2.8	Y	Absent		TS(7)
L2166871-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.8	Y	Absent		PB-TI(180)
L2166871-01F	Glass 120ml/4oz unpreserved	A	NA		2.8	Y	Absent		PA-PAH(14)
L2166871-02A	Vial MeOH preserved	A	NA		2.8	Y	Absent		PA-8260HLW(14)
L2166871-02B	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-02C	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-02D	Plastic 2oz unpreserved for TS	A	NA		2.8	Y	Absent		TS(7)
L2166871-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.8	Y	Absent		PB-TI(180)
L2166871-02F	Glass 120ml/4oz unpreserved	A	NA		2.8	Y	Absent		PA-PAH(14)
L2166871-03A	Vial MeOH preserved	A	NA		2.8	Y	Absent		PA-8260HLW(14)
L2166871-03B	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-03C	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-03D	Plastic 2oz unpreserved for TS	A	NA		2.8	Y	Absent		TS(7)
L2166871-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.8	Y	Absent		PB-TI(180)
L2166871-03F	Glass 120ml/4oz unpreserved	A	NA		2.8	Y	Absent		PA-PAH(14)
L2166871-04A	Vial MeOH preserved	A	NA		2.8	Y	Absent		PA-8260HLW(14)
L2166871-04B	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-04C	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166871
Report Date: 12/21/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2166871-04D	Plastic 2oz unpreserved for TS	A	NA		2.8	Y	Absent		TS(7)
L2166871-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.8	Y	Absent		PB-TI(180)
L2166871-04F	Glass 120ml/4oz unpreserved	A	NA		2.8	Y	Absent		PA-PAH(14)
L2166871-05A	Vial MeOH preserved	B	NA		2.7	Y	Absent		PA-8260HLW(14)
L2166871-05B	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-05C	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-05D	Plastic 2oz unpreserved for TS	B	NA		2.7	Y	Absent		TS(7)
L2166871-05E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.7	Y	Absent		PB-TI(180)
L2166871-05F	Glass 120ml/4oz unpreserved	B	NA		2.7	Y	Absent		PA-PAH(14)
L2166871-06A	Vial MeOH preserved	A	NA		2.8	Y	Absent		PA-8260HLW(14)
L2166871-06B	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-06C	Vial water preserved	A	NA		2.8	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-06D	Plastic 2oz unpreserved for TS	A	NA		2.8	Y	Absent		TS(7)
L2166871-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.8	Y	Absent		PB-TI(180)
L2166871-06F	Glass 120ml/4oz unpreserved	A	NA		2.8	Y	Absent		PA-PAH(14)
L2166871-07A	Vial MeOH preserved	C	NA		2.9	Y	Absent		PA-8260HLW(14)
L2166871-07B	Vial water preserved	C	NA		2.9	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-07C	Vial water preserved	C	NA		2.9	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-07D	Plastic 2oz unpreserved for TS	C	NA		2.9	Y	Absent		TS(7)
L2166871-07E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.9	Y	Absent		PB-TI(180)
L2166871-07F	Glass 120ml/4oz unpreserved	C	NA		2.9	Y	Absent		PA-PAH(14)
L2166871-08A	Vial MeOH preserved	C	NA		2.9	Y	Absent		PA-8260HLW(14)
L2166871-08B	Vial water preserved	C	NA		2.9	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-08C	Vial water preserved	C	NA		2.9	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-08D	Plastic 2oz unpreserved for TS	C	NA		2.9	Y	Absent		TS(7)
L2166871-08E	Glass 120ml/4oz unpreserved	C	NA		2.9	Y	Absent		PB-TI(180)
L2166871-08F	Glass 120ml/4oz unpreserved	C	NA		2.9	Y	Absent		PA-PAH(14)
L2166871-09A	Vial MeOH preserved	C	NA		2.9	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166871
Report Date: 12/21/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2166871-09B	Vial water preserved	C	NA		2.9	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-09C	Vial water preserved	C	NA		2.9	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-09D	Plastic 2oz unpreserved for TS	C	NA		2.9	Y	Absent		TS(7)
L2166871-09E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.9	Y	Absent		PB-TI(180)
L2166871-09F	Glass 120ml/4oz unpreserved	C	NA		2.9	Y	Absent		PA-PAH(14)
L2166871-10A	Vial MeOH preserved	C	NA		2.9	Y	Absent		PA-8260HLW(14)
L2166871-10B	Vial water preserved	C	NA		2.9	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-10C	Vial water preserved	C	NA		2.9	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-10D	Plastic 2oz unpreserved for TS	C	NA		2.9	Y	Absent		TS(7)
L2166871-10E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.9	Y	Absent		PB-TI(180)
L2166871-10F	Glass 120ml/4oz unpreserved	C	NA		2.9	Y	Absent		PA-PAH(14)
L2166871-11A	Vial MeOH preserved	B	NA		2.7	Y	Absent		PA-8260HLW(14)
L2166871-11B	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-11C	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-11D	Plastic 2oz unpreserved for TS	B	NA		2.7	Y	Absent		TS(7)
L2166871-11E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.7	Y	Absent		PB-TI(180)
L2166871-11F	Glass 120ml/4oz unpreserved	B	NA		2.7	Y	Absent		PA-PAH(14)
L2166871-12A	Vial MeOH preserved	B	NA		2.7	Y	Absent		PA-8260HLW(14)
L2166871-12B	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-12C	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-12D	Plastic 2oz unpreserved for TS	B	NA		2.7	Y	Absent		TS(7)
L2166871-12E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.7	Y	Absent		PB-TI(180)
L2166871-12F	Glass 120ml/4oz unpreserved	B	NA		2.7	Y	Absent		PA-PAH(14)
L2166871-13A	Vial MeOH preserved	B	NA		2.7	Y	Absent		PA-8260HLW(14)
L2166871-13B	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-13C	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-13D	Plastic 2oz unpreserved for TS	B	NA		2.7	Y	Absent		TS(7)
L2166871-13E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.7	Y	Absent		PB-TI(180)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2166871
Report Date: 12/21/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2166871-13F	Glass 120ml/4oz unpreserved	B	NA		2.7	Y	Absent		PA-PAH(14)
L2166871-14A	Vial MeOH preserved	B	NA		2.7	Y	Absent		PA-8260HLW(14)
L2166871-14B	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-14C	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-14D	Plastic 2oz unpreserved for TS	B	NA		2.7	Y	Absent		TS(7)
L2166871-14E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.7	Y	Absent		PB-TI(180)
L2166871-14F	Glass 120ml/4oz unpreserved	B	NA		2.7	Y	Absent		PA-PAH(14)
L2166871-15A	Vial MeOH preserved	B	NA		2.7	Y	Absent		PA-8260HLW(14)
L2166871-15B	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-15C	Vial water preserved	B	NA		2.7	Y	Absent	07-DEC-21 11:33	PA-8260HLW(14)
L2166871-15D	Plastic 2oz unpreserved for TS	B	NA		2.7	Y	Absent		TS(7)
L2166871-15E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.7	Y	Absent		PB-TI(180)
L2166871-15F	Glass 120ml/4oz unpreserved	B	NA		2.7	Y	Absent		PA-PAH(14)
L2166871-16A	Vial HCl preserved	C	NA		2.9	Y	Absent		PA-8260(14)
L2166871-16B	Vial HCl preserved	C	NA		2.9	Y	Absent		PA-8260(14)
L2166871-16C	Vial HCl preserved	C	NA		2.9	Y	Absent		8011(14)
L2166871-16D	Plastic 60ml unpreserved	C	7	7	2.9	Y	Absent		ARCHIVE()
L2166871-16F	Plastic 250ml HNO3 preserved	C	<2	<2	2.9	Y	Absent		PB-6020T-PPB(180)
L2166871-16G	Amber 250ml unpreserved	C	7	7	2.9	Y	Absent		PA-PAHSIM-LVI(7)
L2166871-16H	Amber 250ml unpreserved	C	7	7	2.9	Y	Absent		PA-PAHSIM-LVI(7)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166871
Project Number:	200.00135.005.03	**Report Date:**	12/21/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166871
Project Number:	200.00135.005.03	**Report Date:**	12/21/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166871
Project Number:	200.00135.005.03	**Report Date:**	12/21/21

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2166871
Project Number:	200.00135.005.03	**Report Date:**	12/21/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/7/21

ALPHA Job #: L2166871

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist		Sample Specific Comments	TOTAL # BOTTLES
66871-01	PB-881-22-5501	12/6	1020	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-02	PB-881-07-5501		1045	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-03	PB-884-05-5501		1100	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-04	PB-884-06-5501		1130	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-05	PB-884-26-5501		1200	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-06	PB-881-10-5501		1220	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-07	PB-885-01-5501		1320	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-08	PB-885-02-5501		1330	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-09	PB-885-07-5501		1345	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-10	PB-885-16-5501		1400	S	TS	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
	Container Type					G	G	G	-	-	-	-	-	-	-	-	-		
	Preservative					F	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	12/6 1625		12/6 1625
	12/6 1730		12/6 1730
	12/6-2001		12/6/21 2330
Paul Mazzella	12/7/21 0132		12/7/21 0132

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-07(HW)
(rev. 1-JAN-12)

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/7/21

ALPHA Job #: L2166821

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist		Sample Specific Comments	TOTAL # BOTTLES
66871-11	PB-885-03-5501	12/6	1410	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		8
-12	PB-885-08-5501		1420	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-13	PB-885-09-5501		1430	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-14	PB-885-10-5501		1440	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-15	PB-885-11-5501		1450	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-16	FB-211206		1400	W	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		7
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		

Container Type	G	G	G	-	-	-	-	-	-	-	-	-	
Preservative	F	A	A	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
	12/6 1645		12/6 16:25
	12/6 1730	12-6-2001	12-6 1730
Paul Mazzella	12/7/21 0832	Paul Mazzella	12/6/21 2030
			12/7/21 0832

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(LIAL) (rev. 8-JAN-98)

PADEP Short List Analytical List:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

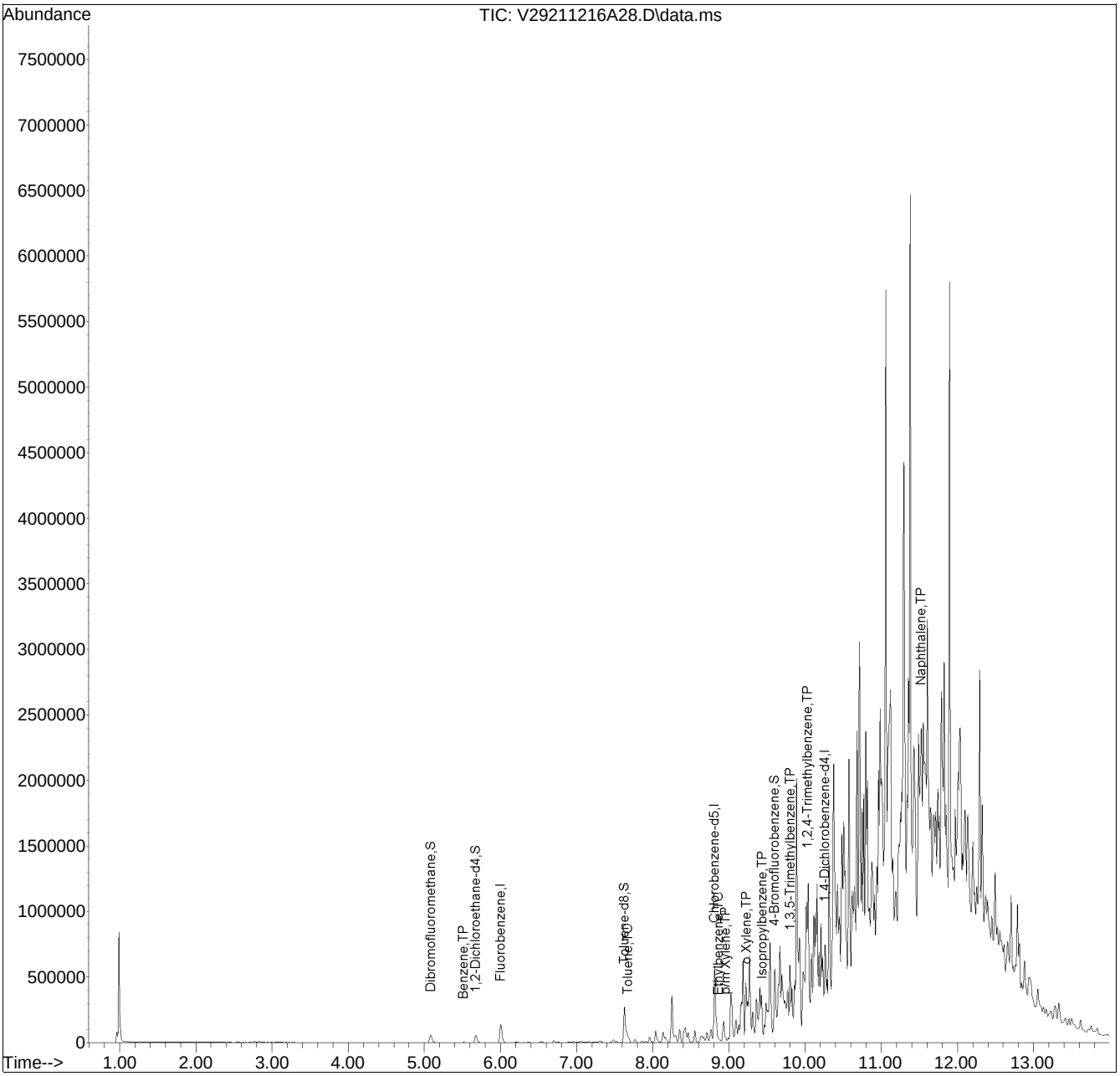
6. Waste Oil – benzene, toluene, ethyl benzene, cumene, naphthalene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, lead

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA129\2021\211216A\
Data File : V29211216A28.D
Acq On : 16 Dec 2021 07:44 pm
Operator : VOA129:AJK
Sample : L2166871-04,31,5.79,5,,B
Misc : WG1584805,ICAL18564
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Dec 17 09:57:51 2021
Quant Method : I:\VOLATILES\VOA129\2021\211216A\V129_211213N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Dec 14 10:56:36 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list16A\V29211216A02.D•



V129_211213N_8260.m Fri Dec 17 16:48:23 2021 SVOA-INSTRUMENT Page: 2

ANALYTICAL REPORT

Lab Number:	L2167219
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.005.03
Report Date:	12/22/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167219
Report Date: 12/22/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2167219-01	PB-885-22-SS01	SOIL	PHILADELPHIA, PA	12/07/21 09:10	12/07/21
L2167219-02	PB-885-23-SS01	SOIL	PHILADELPHIA, PA	12/07/21 09:30	12/07/21
L2167219-03	PB-885-26-SS01	SOIL	PHILADELPHIA, PA	12/07/21 09:45	12/07/21
L2167219-04	PB-885-21-SS01	SOIL	PHILADELPHIA, PA	12/07/21 10:10	12/07/21
L2167219-05	PB-885-06-SS01	SOIL	PHILADELPHIA, PA	12/07/21 10:40	12/07/21
L2167219-06	PB-253-01-SS01	SOIL	PHILADELPHIA, PA	12/07/21 12:30	12/07/21
L2167219-07	PB-253-02-SS01	SOIL	PHILADELPHIA, PA	12/07/21 13:00	12/07/21
L2167219-08	PB-253-03-SS01	SOIL	PHILADELPHIA, PA	12/07/21 13:10	12/07/21
L2167219-09	PB-253-04-SS01	SOIL	PHILADELPHIA, PA	12/07/21 13:40	12/07/21
L2167219-10	PB-253-05-SS01	SOIL	PHILADELPHIA, PA	12/07/21 14:00	12/07/21
L2167219-11	PB-253-06-SS01	SOIL	PHILADELPHIA, PA	12/07/21 14:10	12/07/21
L2167219-12	PB-253-07-SS01	SOIL	PHILADELPHIA, PA	12/07/21 14:20	12/07/21
L2167219-13	PB-253-08-SS01	SOIL	PHILADELPHIA, PA	12/07/21 14:30	12/07/21
L2167219-14	PB-253-09-SS01	SOIL	PHILADELPHIA, PA	12/07/21 14:40	12/07/21
L2167219-15	PB-253-10-SS01	SOIL	PHILADELPHIA, PA	12/07/21 14:50	12/07/21
L2167219-16	DUP-23	SOIL	PHILADELPHIA, PA	12/07/21 00:00	12/07/21
L2167219-17	FB-211207	WATER	PHILADELPHIA, PA	12/07/21 15:00	12/07/21
L2167219-18	TB-211207	WATER	PHILADELPHIA, PA	12/07/21 00:00	12/07/21

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167219
Project Number:	200.00135.005.03	**Report Date:**	12/22/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167219
Project Number:	200.00135.005.03	**Report Date:**	12/22/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2167219-06: The sample was analyzed as a High Level Methanol in order to quantitate results within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial Low Level analysis. The results of both analyses are reported. Differences were noted between the results of the Volatile Organics by EPA Method 5035/8260 High and Low Level analyses which have been attributed to vial discrepancies.

L2167219-07: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (144%) due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2167219-10: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (310%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2167219-13: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (163%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2167219-14: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (138%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2167219-15 and -16: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of non-target compounds in the sample.

L2167219-15: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (158%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167219
Project Number:	200.00135.005.03	**Report Date:**	12/22/21

Case Narrative (continued)

L2167219-16: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (139%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Semivolatile Organics

L2167219-16D: The sample has elevated detection limits due to the dilution required by the sample matrix.

L2167219-16D: The surrogate recoveries are below the acceptance criteria for nitrobenzene-d5 (0%), 2-fluorobiphenyl (0%) and 4-terphenyl-d14 (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

Semivolatile Organics by SIM

The WG1582162-1 Method Blank, associated with L2167219-17, has concentrations above the reporting limits for Naphthalene and Phenanthrene. Since the associated sample concentrations are either greater than 10x the blank concentrations or non-detect to the RL for these target analytes, no corrective action is required. Any results detected below the reporting limit are qualified with a "B".

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 12/22/21

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-01
Client ID: PB-885-22-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 09:10
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/17/21 07:49
Analyst: MV
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-02
Client ID: PB-885-23-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 09:30
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/17/21 13:56
Analyst: MKS
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00064	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-03
Client ID: PB-885-26-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 09:45
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/17/21 14:22
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00060	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00065	1
1,2-Dibromoethane	ND		mg/kg	0.00060	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00067	1
o-Xylene	ND		mg/kg	0.0012	0.00035	1
Xylenes, Total	ND		mg/kg	0.0012	0.00035	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00040	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-04
Client ID: PB-885-21-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 10:10
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/17/21 14:48
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00023	1
Benzene	ND		mg/kg	0.00056	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00061	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00063	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-05
Client ID: PB-885-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 10:40
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 16:05
Analyst: AJK
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00056	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	110		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-06
Client ID: PB-253-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 12:30
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 13:07
Analyst: MV
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00083	J	mg/kg	0.0023	0.00023	1
Benzene	0.84	E	mg/kg	0.00056	0.00019	1
Toluene	0.11		mg/kg	0.0011	0.00061	1
Ethylbenzene	1.1	E	mg/kg	0.0011	0.00016	1
Isopropylbenzene	0.086		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.14		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	0.93	E	mg/kg	0.0023	0.00038	1
Naphthalene	0.071		mg/kg	0.0045	0.00074	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	114		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	81		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-06 D
Client ID: PB-253-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 12:30
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/18/21 21:25
Analyst: MKS
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.26	0.026	2
Benzene	3.5		mg/kg	0.065	0.022	2
Toluene	0.70		mg/kg	0.13	0.071	2
Ethylbenzene	9.4		mg/kg	0.13	0.018	2
Isopropylbenzene	1.0		mg/kg	0.13	0.014	2
1,3,5-Trimethylbenzene	1.9		mg/kg	0.26	0.025	2
1,2,4-Trimethylbenzene	14.		mg/kg	0.26	0.043	2
Naphthalene	0.75		mg/kg	0.52	0.084	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	91		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-07
Client ID: PB-253-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 13:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 17:54
Analyst: MV
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.15	0.015	1
Benzene	0.53		mg/kg	0.038	0.012	1
Toluene	0.53		mg/kg	0.075	0.041	1
Ethylbenzene	6.4		mg/kg	0.075	0.010	1
Isopropylbenzene	2.3		mg/kg	0.075	0.0082	1
1,3,5-Trimethylbenzene	12.		mg/kg	0.15	0.014	1
1,2,4-Trimethylbenzene	31.	E	mg/kg	0.15	0.025	1
Naphthalene	29.	E	mg/kg	0.30	0.049	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	122		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	**144**	Q	70-130
Dibromofluoromethane	113		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-07 D
Client ID: PB-253-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 13:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/18/21 21:48
Analyst: MKS
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,4-Trimethylbenzene	34.		mg/kg	1.5	0.25	10
Naphthalene	48.		mg/kg	3.0	0.49	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	120		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-08
Client ID: PB-253-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 13:10
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/18/21 19:55
Analyst: MKS
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
Toluene	ND		mg/kg	0.00097	0.00052	1
Ethylbenzene	ND		mg/kg	0.00097	0.00014	1
Isopropylbenzene	ND		mg/kg	0.00097	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00019	1
1,2,4-Trimethylbenzene	0.00034	J	mg/kg	0.0019	0.00032	1
Naphthalene	ND		mg/kg	0.0039	0.00063	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	114		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-09
Client ID: PB-253-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 13:40
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/18/21 20:17
Analyst: MKS
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00043	0.00014	1
Toluene	ND		mg/kg	0.00085	0.00046	1
Ethylbenzene	ND		mg/kg	0.00085	0.00012	1
Isopropylbenzene	ND		mg/kg	0.00085	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00028	1
Naphthalene	ND		mg/kg	0.0034	0.00055	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	112		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-10
Client ID: PB-253-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 14:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/21/21 15:10
Analyst: KJD
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00056	0.00019	1
Toluene	ND		mg/kg	0.0011	0.00061	1
Ethylbenzene	0.0084		mg/kg	0.0011	0.00016	1
Isopropylbenzene	0.043		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.015		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	0.19		mg/kg	0.0023	0.00038	1
Naphthalene	0.019		mg/kg	0.0045	0.00073	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	115		70-130
4-Bromofluorobenzene	**310**	Q	70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-11
Client ID: PB-253-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 14:10
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/18/21 20:40
Analyst: MKS
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00057	0.00019	1
Toluene	ND		mg/kg	0.0011	0.00061	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1
Naphthalene	ND		mg/kg	0.0045	0.00074	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-12
Client ID: PB-253-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 14:20
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/18/21 21:03
Analyst: MKS
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0026	0.00026	1
Benzene	0.00047	J	mg/kg	0.00064	0.00021	1
Toluene	ND		mg/kg	0.0013	0.00070	1
Ethylbenzene	0.0020		mg/kg	0.0013	0.00018	1
Isopropylbenzene	0.0014		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	0.0023	J	mg/kg	0.0026	0.00025	1
1,2,4-Trimethylbenzene	0.0015	J	mg/kg	0.0026	0.00043	1
Naphthalene	0.038		mg/kg	0.0051	0.00084	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	109		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-13
Client ID: PB-253-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 14:30
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 18:17
Analyst: MV
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.014	1
Benzene	ND		mg/kg	0.034	0.011	1
Toluene	ND		mg/kg	0.067	0.036	1
Ethylbenzene	0.12		mg/kg	0.067	0.0095	1
Isopropylbenzene	0.38		mg/kg	0.067	0.0073	1
1,3,5-Trimethylbenzene	1.9		mg/kg	0.13	0.013	1
1,2,4-Trimethylbenzene	4.4		mg/kg	0.13	0.022	1
Naphthalene	1.9		mg/kg	0.27	0.044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	**163**	Q	70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-14
Client ID: PB-253-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 14:40
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 12:43
Analyst: MV
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0028	0.00028	1
Benzene	ND		mg/kg	0.00069	0.00023	1
Toluene	ND		mg/kg	0.0014	0.00075	1
Ethylbenzene	0.0014		mg/kg	0.0014	0.00019	1
Isopropylbenzene	0.015		mg/kg	0.0014	0.00015	1
1,3,5-Trimethylbenzene	0.0052		mg/kg	0.0028	0.00027	1
1,2,4-Trimethylbenzene	0.010		mg/kg	0.0028	0.00046	1
Naphthalene	0.014		mg/kg	0.0055	0.00090	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	**138**	Q	70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-15
Client ID: PB-253-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 14:50
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 18:40
Analyst: MV
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.013	1
Benzene	ND		mg/kg	0.032	0.011	1
Toluene	ND		mg/kg	0.065	0.035	1
Ethylbenzene	0.033	J	mg/kg	0.065	0.0092	1
Isopropylbenzene	2.4		mg/kg	0.065	0.0071	1
1,3,5-Trimethylbenzene	0.033	J	mg/kg	0.13	0.012	1
1,2,4-Trimethylbenzene	0.18		mg/kg	0.13	0.022	1
Naphthalene	0.91		mg/kg	0.26	0.042	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	**158**	Q	70-130
Dibromofluoromethane	112		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-16
Client ID: DUP-23
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 00:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 19:02
Analyst: MV
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.014	1
Benzene	ND		mg/kg	0.034	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.067	0.017	1
Toluene	ND		mg/kg	0.067	0.036	1
1,2-Dibromoethane	ND		mg/kg	0.034	0.020	1
Ethylbenzene	0.016	J	mg/kg	0.067	0.0095	1
p/m-Xylene	ND		mg/kg	0.13	0.038	1
o-Xylene	0.036	J	mg/kg	0.067	0.020	1
Xylenes, Total	0.036	J	mg/kg	0.067	0.020	1
Isopropylbenzene	2.0		mg/kg	0.067	0.0073	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.13	0.013	1
1,2,4-Trimethylbenzene	0.054	J	mg/kg	0.13	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	**139**	Q	70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-17
Client ID: FB-211207
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 15:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/19/21 14:11
Analyst: GT

Extraction Method: EPA 8011
Extraction Date: 12/19/21 09:20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-17
Client ID: FB-211207
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 15:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/17/21 09:57
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	109		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-18
Client ID: TB-211207
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 00:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/19/21 14:20
Analyst: GT

Extraction Method: EPA 8011
Extraction Date: 12/19/21 09:20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-18
Client ID: TB-211207
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 00:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/22/21 11:57
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	114		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2167219

Project Number: 200.00135.005.03 **Report Date:** 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/17/21 09:33
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 17 Batch: WG1584911-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/17/21 06:57
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-04 Batch: WG1585060-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 12/19/21 11:13
Analyst: GT

Extraction Method: EPA 8011
Extraction Date: 12/19/21 09:20

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 17-18 Batch: WG1585167-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/18/21 17:40
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 06-07 Batch: WG1585263-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
Toluene	ND		mg/kg	0.050	0.027
Ethylbenzene	ND		mg/kg	0.050	0.0070
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017
Naphthalene	ND		mg/kg	0.20	0.032

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2167219

Project Number: 200.00135.005.03 **Report Date:** 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/18/21 17:40
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 08-09,11-12 Batch: WG1585264-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
Toluene	ND		mg/kg	0.0010	0.00054
Ethylbenzene	ND		mg/kg	0.0010	0.00014
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033
Naphthalene	ND		mg/kg	0.0040	0.00065

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/20/21 09:14
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 07,13,15-16 Batch: WG1585981-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017
Naphthalene	ND		mg/kg	0.20	0.032

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	110		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/19/21 11:53
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 05 Batch: WG1586009-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/20/21 09:21
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 06,14 Batch: WG1586011-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
Toluene	ND		mg/kg	0.0010	0.00054
Ethylbenzene	ND		mg/kg	0.0010	0.00014
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033
Naphthalene	ND		mg/kg	0.0040	0.00065

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/21/21 07:14
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 10 Batch: WG1586225-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
Toluene	ND		mg/kg	0.0010	0.00054
Ethylbenzene	ND		mg/kg	0.0010	0.00014
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033
Naphthalene	ND		mg/kg	0.0040	0.00065

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2167219

Project Number: 200.00135.005.03 **Report Date:** 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/22/21 08:29
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 18 Batch: WG1586758-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	112		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167219
Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 17 Batch: WG1584911-3 WG1584911-4								
Methyl tert butyl ether	93		98		63-130	5		20
Benzene	100		100		70-130	0		20
1,2-Dichloroethane	99		100		70-130	1		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	100		100		70-130	0		20
Isopropylbenzene	100		100		70-130	0		20
1,3,5-Trimethylbenzene	100		100		64-130	0		20
1,2,4-Trimethylbenzene	100		100		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		97		70-130
Toluene-d8	102		101		70-130
4-Bromofluorobenzene	103		99		70-130
Dibromofluoromethane	99		99		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167219
Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-04 Batch: WG1585060-3 WG1585060-4								
Methyl tert butyl ether	78		93		66-130	18		30
Benzene	101		93		70-130	8		30
1,2-Dichloroethane	85		83		70-130	2		30
Toluene	103		94		70-130	9		30
1,2-Dibromoethane	89		86		70-130	3		30
Ethylbenzene	108		97		70-130	11		30
p/m-Xylene	110		99		70-130	11		30
o-Xylene	108		99		70-130	9		30
Isopropylbenzene	106		95		70-130	11		30
1,3,5-Trimethylbenzene	106		95		70-130	11		30
1,2,4-Trimethylbenzene	105		96		70-130	9		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	92		95		70-130
Toluene-d8	106		103		70-130
4-Bromofluorobenzene	97		96		70-130
Dibromofluoromethane	95		97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 17-18 Batch: WG1585167-2								
1,2-Dibromoethane	106		-		80-120	-		20	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167219
Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 06-07 Batch: WG1585263-3 WG1585263-4								
Methyl tert butyl ether	97		93		66-130	4		30
Benzene	88		90		70-130	2		30
Toluene	84		86		70-130	2		30
Ethylbenzene	87		89		70-130	2		30
Isopropylbenzene	83		84		70-130	1		30
1,3,5-Trimethylbenzene	83		84		70-130	1		30
1,2,4-Trimethylbenzene	83		84		70-130	1		30
Naphthalene	82		78		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	114		112		70-130
Toluene-d8	100		99		70-130
4-Bromofluorobenzene	98		97		70-130
Dibromofluoromethane	109		110		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 08-09,11-12 Batch: WG1585264-3 WG1585264-4								
Methyl tert butyl ether	97		93		66-130	4		30
Benzene	88		90		70-130	2		30
Toluene	84		86		70-130	2		30
Ethylbenzene	87		89		70-130	2		30
Isopropylbenzene	83		84		70-130	1		30
1,3,5-Trimethylbenzene	83		84		70-130	1		30
1,2,4-Trimethylbenzene	83		84		70-130	1		30
Naphthalene	82		78		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	114		112		70-130
Toluene-d8	100		99		70-130
4-Bromofluorobenzene	98		97		70-130
Dibromofluoromethane	109		110		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 07,13,15-16 Batch: WG1585981-3 WG1585981-4								
Methyl tert butyl ether	96		102		66-130	6		30
Benzene	86		92		70-130	7		30
1,2-Dichloroethane	95		104		70-130	9		30
Toluene	84		88		70-130	5		30
1,2-Dibromoethane	96		99		70-130	3		30
Ethylbenzene	87		92		70-130	6		30
p/m-Xylene	89		95		70-130	7		30
o-Xylene	91		99		70-130	8		30
Isopropylbenzene	87		86		70-130	1		30
1,3,5-Trimethylbenzene	86		86		70-130	0		30
1,2,4-Trimethylbenzene	86		86		70-130	0		30
Naphthalene	82		84		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		110		70-130
Toluene-d8	102		99		70-130
4-Bromofluorobenzene	103		98		70-130
Dibromofluoromethane	104		108		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 05 Batch: WG1586009-3 WG1586009-4								
Methyl tert butyl ether	103		103		66-130	0		30
Benzene	106		104		70-130	2		30
1,2-Dichloroethane	98		98		70-130	0		30
Toluene	105		103		70-130	2		30
1,2-Dibromoethane	99		100		70-130	1		30
Ethylbenzene	108		106		70-130	2		30
p/m-Xylene	116		113		70-130	3		30
o-Xylene	114		112		70-130	2		30
Isopropylbenzene	112		109		70-130	3		30
1,3,5-Trimethylbenzene	113		110		70-130	3		30
1,2,4-Trimethylbenzene	112		110		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		96		70-130
Toluene-d8	100		99		70-130
4-Bromofluorobenzene	98		98		70-130
Dibromofluoromethane	101		101		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 06,14 Batch: WG1586011-3 WG1586011-4								
Methyl tert butyl ether	106		106		66-130	0		30
Benzene	110		108		70-130	2		30
Toluene	108		108		70-130	0		30
Ethylbenzene	111		111		70-130	0		30
Isopropylbenzene	114		111		70-130	3		30
1,3,5-Trimethylbenzene	115		113		70-130	2		30
1,2,4-Trimethylbenzene	116		114		70-130	2		30
Naphthalene	101		106		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		99		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	94		96		70-130
Dibromofluoromethane	102		103		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 10 Batch: WG1586225-3 WG1586225-4								
Methyl tert butyl ether	105		106		66-130	1		30
Benzene	106		105		70-130	1		30
Toluene	104		105		70-130	1		30
Ethylbenzene	107		108		70-130	1		30
Isopropylbenzene	110		110		70-130	0		30
1,3,5-Trimethylbenzene	110		112		70-130	2		30
1,2,4-Trimethylbenzene	111		112		70-130	1		30
Naphthalene	108		111		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		96		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	100		98		70-130
Dibromofluoromethane	100		101		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 18 Batch: WG1586758-3 WG1586758-4								
Methyl tert butyl ether	90		100		63-130	11		20
Benzene	100		100		70-130	0		20
1,2-Dichloroethane	110		110		70-130	0		20
Toluene	100		110		70-130	10		20
Ethylbenzene	100		110		70-130	10		20
p/m-Xylene	100		105		70-130	5		20
o-Xylene	100		105		70-130	5		20
Isopropylbenzene	100		110		70-130	10		20
1,3,5-Trimethylbenzene	94		98		64-130	4		20
1,2,4-Trimethylbenzene	95		99		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	109		111		70-130
Toluene-d8	105		105		70-130
4-Bromofluorobenzene	99		100		70-130
Dibromofluoromethane	103		103		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-01
Client ID: PB-885-22-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 09:10
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 02:17
Analyst: JG
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 08:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	41		23-120
2-Fluorobiphenyl	37		30-120
4-Terphenyl-d14	37		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-02
Client ID: PB-885-23-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 09:30
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 02:41
Analyst: JG
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 08:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	77		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-03
Client ID: PB-885-26-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 09:45
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 03:05
Analyst: JG
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 08:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	67		30-120
4-Terphenyl-d14	68		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-04
Client ID: PB-885-21-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 10:10
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 03:29
Analyst: JG
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 08:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	55		23-120
2-Fluorobiphenyl	53		30-120
4-Terphenyl-d14	57		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-05
Client ID: PB-885-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 10:40
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 03:54
Analyst: JG
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 08:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	68		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-16 D
Client ID: DUP-23
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 00:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 21:49
Analyst: CMM
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 08:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	4.0	0.49	20
Fluorene	14.		mg/kg	4.0	0.39	20
Phenanthrene	29.		mg/kg	2.4	0.49	20
Anthracene	3.7		mg/kg	2.4	0.78	20
Pyrene	2.9		mg/kg	2.4	0.40	20
Benzo(a)anthracene	ND		mg/kg	2.4	0.45	20
Chrysene	ND		mg/kg	2.4	0.42	20
Benzo(b)fluoranthene	ND		mg/kg	2.4	0.68	20
Benzo(a)pyrene	ND		mg/kg	3.2	0.98	20
Benzo(ghi)perylene	ND		mg/kg	3.2	0.47	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**0**	Q	23-120
2-Fluorobiphenyl	**0**	Q	30-120
4-Terphenyl-d14	**0**	Q	18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-17
Client ID: FB-211207
Sample Location: PHILADELPHIA, PA

Date Collected: 12/07/21 15:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/14/21 13:31
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 12/12/21 07:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.02	J	ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	55		23-120
2-Fluorobiphenyl	67		15-120
4-Terphenyl-d14	68		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 12/14/21 17:24
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 12/11/21 21:11

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 17 Batch: WG1582162-1					
Naphthalene	0.12		ug/l	0.10	0.05
Fluorene	0.01	J	ug/l	0.10	0.01
Phenanthrene	0.10		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	0.02	J	ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	59		23-120
2-Fluorobiphenyl	73		15-120
4-Terphenyl-d14	72		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/19/21 23:25
Analyst: SLR

Extraction Method: EPA 3546
Extraction Date: 12/18/21 08:16

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-05,16 Batch: WG1584941-1					
Naphthalene	ND		mg/kg	0.17	0.020
Fluorene	ND		mg/kg	0.17	0.016
Phenanthrene	ND		mg/kg	0.10	0.020
Anthracene	ND		mg/kg	0.10	0.032
Pyrene	ND		mg/kg	0.10	0.016
Benzo(a)anthracene	ND		mg/kg	0.10	0.019
Chrysene	ND		mg/kg	0.10	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.020

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	65		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	69		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 17 Batch: WG1582162-2 WG1582162-3								
Naphthalene	78		87		40-140	11		40
Fluorene	93		95		40-140	2		40
Phenanthrene	91		92		40-140	1		40
Anthracene	96		97		40-140	1		40
Pyrene	105		104		26-127	1		40
Benzo(a)anthracene	99		97		40-140	2		40
Chrysene	92		92		40-140	0		40
Benzo(b)fluoranthene	109		109		40-140	0		40
Benzo(a)pyrene	105		103		40-140	2		40
Benzo(ghi)perylene	90		88		40-140	2		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	68		77		23-120
2-Fluorobiphenyl	88		97		15-120
4-Terphenyl-d14	114		112		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05,16 Batch: WG1584941-2 WG1584941-3								
Naphthalene	60		75		40-140	22		50
Fluorene	62		74		40-140	18		50
Phenanthrene	60		71		40-140	17		50
Anthracene	59		73		40-140	21		50
Pyrene	61		73		35-142	18		50
Benzo(a)anthracene	64		76		40-140	17		50
Chrysene	64		76		40-140	17		50
Benzo(b)fluoranthene	67		79		40-140	16		50
Benzo(a)pyrene	63		71		40-140	12		50
Benzo(ghi)perylene	68		83		40-140	20		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	61		74		23-120
2-Fluorobiphenyl	63		76		30-120
4-Terphenyl-d14	63		75		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-01
Client ID: PB-885-22-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 09:10
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.76		mg/kg	4.73	0.254	2	12/17/21 19:37	12/22/21 13:59	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-02
Client ID: PB-885-23-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 09:30
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.80		mg/kg	2.08	0.111	1	12/17/21 19:37	12/21/21 22:55	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-03
Client ID: PB-885-26-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 09:45
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.28		mg/kg	2.05	0.110	1	12/17/21 19:37	12/21/21 23:00	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-04
Client ID: PB-885-21-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 10:10
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.11		mg/kg	2.06	0.110	1	12/17/21 19:37	12/21/21 23:05	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-05
Client ID: PB-885-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 10:40
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.41		mg/kg	2.07	0.111	1	12/17/21 19:37	12/21/21 23:10	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167219
Project Number: 200.00135.005.03
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-16
Client ID: DUP-23
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 00:00
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.69		mg/kg	2.29	0.123	1	12/17/21 19:37	12/21/21 23:34	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-17
Client ID: FB-211207
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Water

Date Collected: 12/07/21 15:00
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	12/14/21 05:12	12/17/21 02:28	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 17 Batch: WG1582832-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	12/14/21 05:12	12/16/21 23:54	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-05,16 Batch: WG1584723-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	12/17/21 19:37	12/21/21 20:33	1,6010D	DL

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 17 Batch: WG1582832-2								
Lead, Total	100		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-05,16 Batch: WG1584723-2 SRM Lot Number: D113-540								
Lead, Total	92		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167219
Report Date: 12/22/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 17 QC Batch ID: WG1582832-3 WG1582832-4 QC Sample: L2167147-05 Client ID: MS Sample												
Lead, Total	1.973	530	492.8	93		482.8	91		75-125	2		20
Total Metals - Mansfield Lab Associated sample(s): 01-05,16 QC Batch ID: WG1584723-3 QC Sample: L2167070-01 Client ID: MS Sample												
Lead, Total	10.2	48	49.6	82		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-05,16 QC Batch ID: WG1584723-4 QC Sample: L2167070-01 Client ID: DUP Sample						
Lead, Total	10.2	10.3	mg/kg	1		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-01
Client ID: PB-885-22-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/07/21 09:10
Date Received: 12/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.0		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-02
Client ID: PB-885-23-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/07/21 09:30
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.0		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-03
Client ID: PB-885-26-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/07/21 09:45
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.1		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-04
Client ID: PB-885-21-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/07/21 10:10
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.8		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-05
Client ID: PB-885-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/07/21 10:40
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.7		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-06
Client ID: PB-253-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/07/21 12:30
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-07
Client ID: PB-253-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/07/21 13:00
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.0		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-08
Client ID: PB-253-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/07/21 13:10
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.0		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-09
Client ID: PB-253-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/07/21 13:40
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.0		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-10
Client ID: PB-253-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/07/21 14:00
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.3		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-11
Client ID: PB-253-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/07/21 14:10
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.1		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-12
Client ID: PB-253-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/07/21 14:20
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.9		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-13
Client ID: PB-253-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/07/21 14:30
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.7		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-14
Client ID: PB-253-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/07/21 14:40
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.9		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-15
Client ID: PB-253-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/07/21 14:50
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.5		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167219
Report Date: 12/22/21

SAMPLE RESULTS

Lab ID: L2167219-16
Client ID: DUP-23
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/07/21 00:00
Date Received: 12/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.7		%	0.100	NA	1	-	12/08/21 11:31	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167219

Report Date: 12/22/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-16 QC Batch ID: WG1580638-1 QC Sample: L2167219-01 Client ID: PB-885-22-SS01						
Solids, Total	80.0	79.4	%	1		20

Project Name: PHILADELPHIA REFINERY
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Lab Number: L2167219
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Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167219-01A	Vial MeOH preserved	A	NA		2.3	Y	Absent		PA-8260HLW(14)
L2167219-01B	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-01C	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-01D	Plastic 2oz unpreserved for TS	A	NA		2.3	Y	Absent		TS(7)
L2167219-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.3	Y	Absent		PB-TI(180)
L2167219-01F	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		PA-PAH(14)
L2167219-02A	Vial MeOH preserved	A	NA		2.3	Y	Absent		PA-8260HLW(14)
L2167219-02B	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-02C	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-02D	Plastic 2oz unpreserved for TS	A	NA		2.3	Y	Absent		TS(7)
L2167219-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.3	Y	Absent		PB-TI(180)
L2167219-02F	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		PA-PAH(14)
L2167219-03A	Vial MeOH preserved	A	NA		2.3	Y	Absent		PA-8260HLW(14)
L2167219-03B	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-03C	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-03D	Plastic 2oz unpreserved for TS	A	NA		2.3	Y	Absent		TS(7)
L2167219-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.3	Y	Absent		PB-TI(180)
L2167219-03F	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		PA-PAH(14)
L2167219-04A	Vial MeOH preserved	A	NA		2.3	Y	Absent		PA-8260HLW(14)
L2167219-04B	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-04C	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-04D	Plastic 2oz unpreserved for TS	A	NA		2.3	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167219-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.3	Y	Absent		PB-TI(180)
L2167219-04F	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		PA-PAH(14)
L2167219-05A	Vial MeOH preserved	A	NA		2.3	Y	Absent		PA-8260HLW(14)
L2167219-05B	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-05C	Vial water preserved	A	NA		2.3	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-05D	Plastic 2oz unpreserved for TS	A	NA		2.3	Y	Absent		TS(7)
L2167219-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.3	Y	Absent		PB-TI(180)
L2167219-05F	Glass 120ml/4oz unpreserved	A	NA		2.3	Y	Absent		PA-PAH(14)
L2167219-06A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2167219-06B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260H(14),PA-8260HLW(14)
L2167219-06C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260H(14),PA-8260HLW(14)
L2167219-06D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-07A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-07B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-07C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-07D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-08A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-08B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-08C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-08D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-09A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-09B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-09C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-09D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-10A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-10B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-10C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-10D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

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Lab Number: L2167219
Report Date: 12/22/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167219-11A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-11B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-11C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-11D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-12A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-12B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-12C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-12D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-13A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-13B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-13C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-13D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-14A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-14B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-14C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-14D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-15A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-15B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-15C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-15D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-16A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167219-16B	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-16C	Vial water preserved	B	NA		2.1	Y	Absent	08-DEC-21 11:08	PA-8260HLW(14)
L2167219-16D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167219-16E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2167219-16F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2167219-17A	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2167219-17B	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)

*Values in parentheses indicate holding time in days

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Container Information

Container ID	*Container Type*	*Cooler*	*Initial pH*	*Final pH*	*Temp deg C*	*Pres*	*Seal*	*Frozen Date/Time*	*Analysis(*)*
L2167219-17C	Vial HCl preserved	A	NA		2.3	Y	Absent		8011(14)
L2167219-17D	Plastic 500ml HNO3 preserved	A	<2	<2	2.3	Y	Absent		PB-6020T-PPB(180)
L2167219-17E	Amber 250ml unpreserved	A	7	7	2.3	Y	Absent		PA-PAHSIM-LVI(7)
L2167219-17F	Amber 250ml unpreserved	A	7	7	2.3	Y	Absent		PA-PAHSIM-LVI(7)
L2167219-17G	Plastic 60ml unpreserved	A	NA		2.3	Y	Absent		ARCHIVE()
L2167219-18A	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2167219-18B	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2167219-18C	Vial Na2S2O3 preserved	A	NA		2.3	Y	Absent		8011(14)
L2167219-18D	Vial Na2S2O3 preserved	A	NA		2.3	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

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GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

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Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

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REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/8/21

ALPHA Job #: L2167219

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client Info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program: Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist		Sample Specific Comments	TOTAL # BOTTLES
L7219-01	PB-885-22-5501	12/7	0910	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-02	PB-885-23-5501		0930	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-03	PB-885-26-5501		0945	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-04	PB-885-21-5501		1010	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-05	PB-885-06-5501		1040	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-06	PB-253-01-5501		1230	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-07	PB-253-02-5501		1300	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-08	PB-253-03-5501		1310	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-09	PB-253-04-5501		1340	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-10	PB-253-05-5501		1400	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
	Container Type					G	G	G	-	-	-	-	-	-	-	-	-		
	Preservative					F	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	12/7 1615	AAI	12/7/21 1625
	12/7/21 1750		12/7/21 1750
	12/7/21	AAI	12/7/21 2030
	12/8/21		12/8/21 0450
	12/8/21 0400		12/8/21 0400

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(O-XI) (rev. 9-JAN-13)

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/8/21

ALPHA Job #: L2167219

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist (1-5)		Sample Specific Comments	TOTAL # BOTTLES
67219-11	PB-253-06-5501	12/7	1410	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-12	PB-253-07-5501		1420	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-13	PB-253-08-5501		1430	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-14	PB-253-09-5501		1440	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-15	PB-253-10-5501		1450	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-16	Dup-23		-	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-17	FB-211207		1500	W	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		7
-18	TB-211207		-	W	TS	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐		2
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		

Container Type	G	G	G	-	-	-	-	-	-	-	-	-		
Preservative	F	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	12/7 1625	AAL	12/7/21 1625
	12/7/21 1750	AAL	12/7/21 1750
AAL	12/7/21		12/7/21 2030
	12/8/21	AAL	12/8/21 0150
AAL	12/8/21 0400		12/8/21 0400

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-M2) (rev. 8-JAN-12)

PADEP Short List Analytical List:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

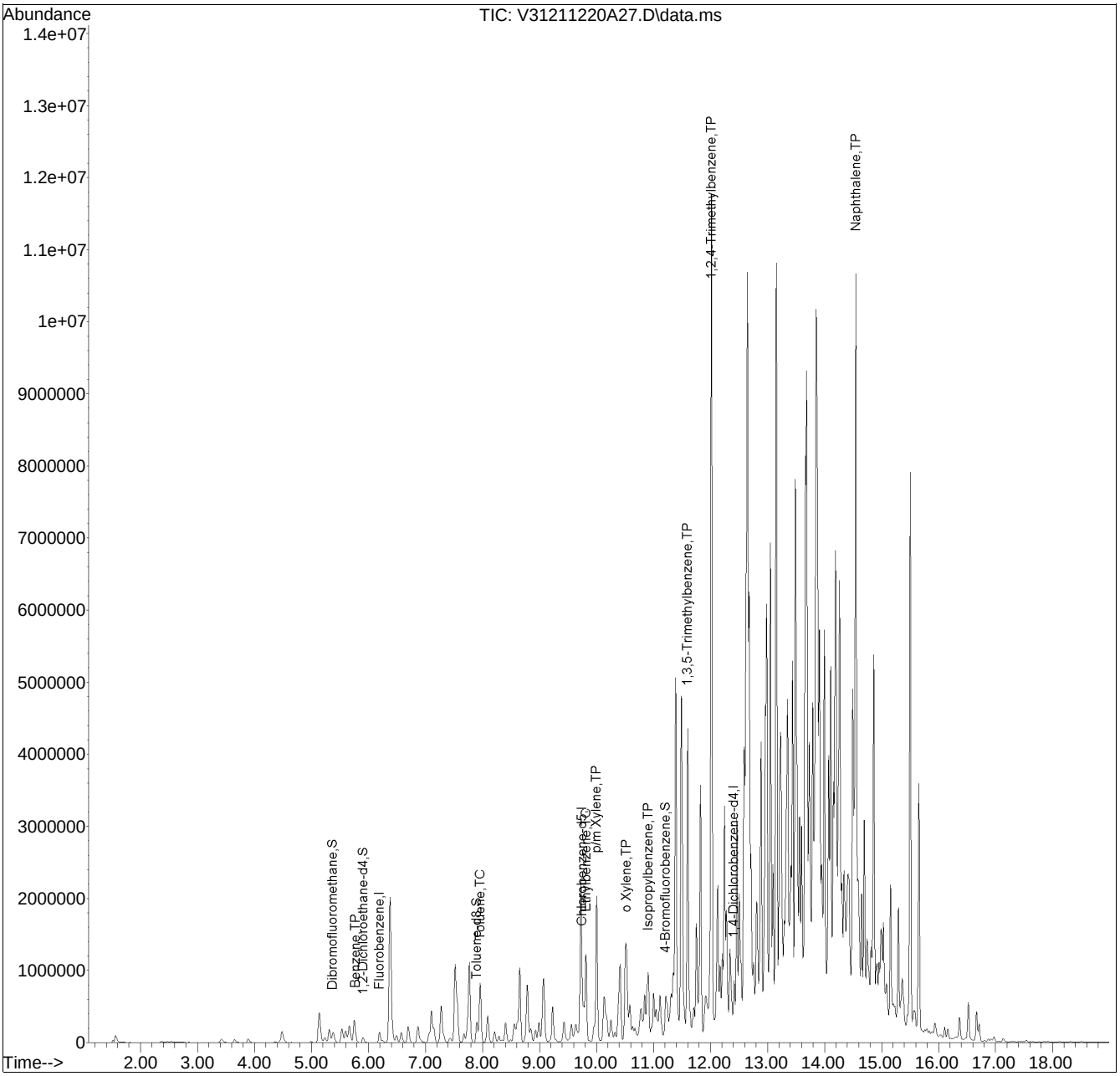
6. Waste Oil – benzene, toluene, ethyl benzene, cumene, naphthalene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, lead

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA131\2021\211220A\
Data File : V31211220A27.D
Acq On : 20 Dec 2021 05:54 pm
Operator : VOA131:MV
Sample : l2167219-07,31H,4.64,5,0.100,,a
Misc : WG1585981,ICAL18518
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 21 05:07:47 2021
Quant Method : I:\VOLATILES\VOA131\2021\211220A\V31_211202A_8260D.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Dec 03 10:30:02 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list20A\V31211220A01.D•

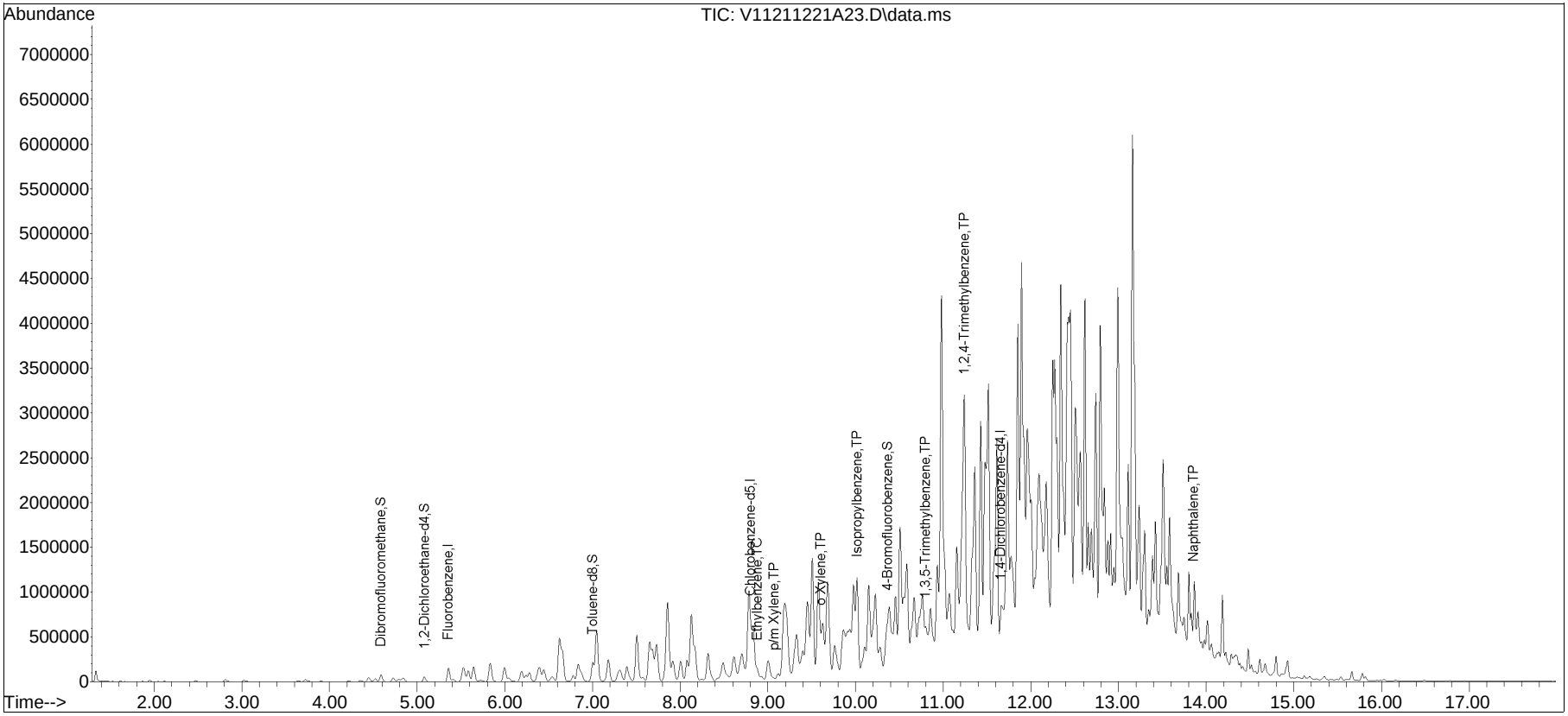


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\211221A\
Data File : V11211221A23.D
Acq On : 21 Dec 2021 03:10 pm
Operator : VOA111:KJD
Sample : L2167219-10,31,5.51,5,,B
Misc : WG1586225,ICAL18566
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Dec 21 15:37:17 2021
Quant Method : I:\VOLATILES\VOA111\2021\211221A\V111_211214A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Dec 14 12:27:59 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list21A\V11211221A01.D•

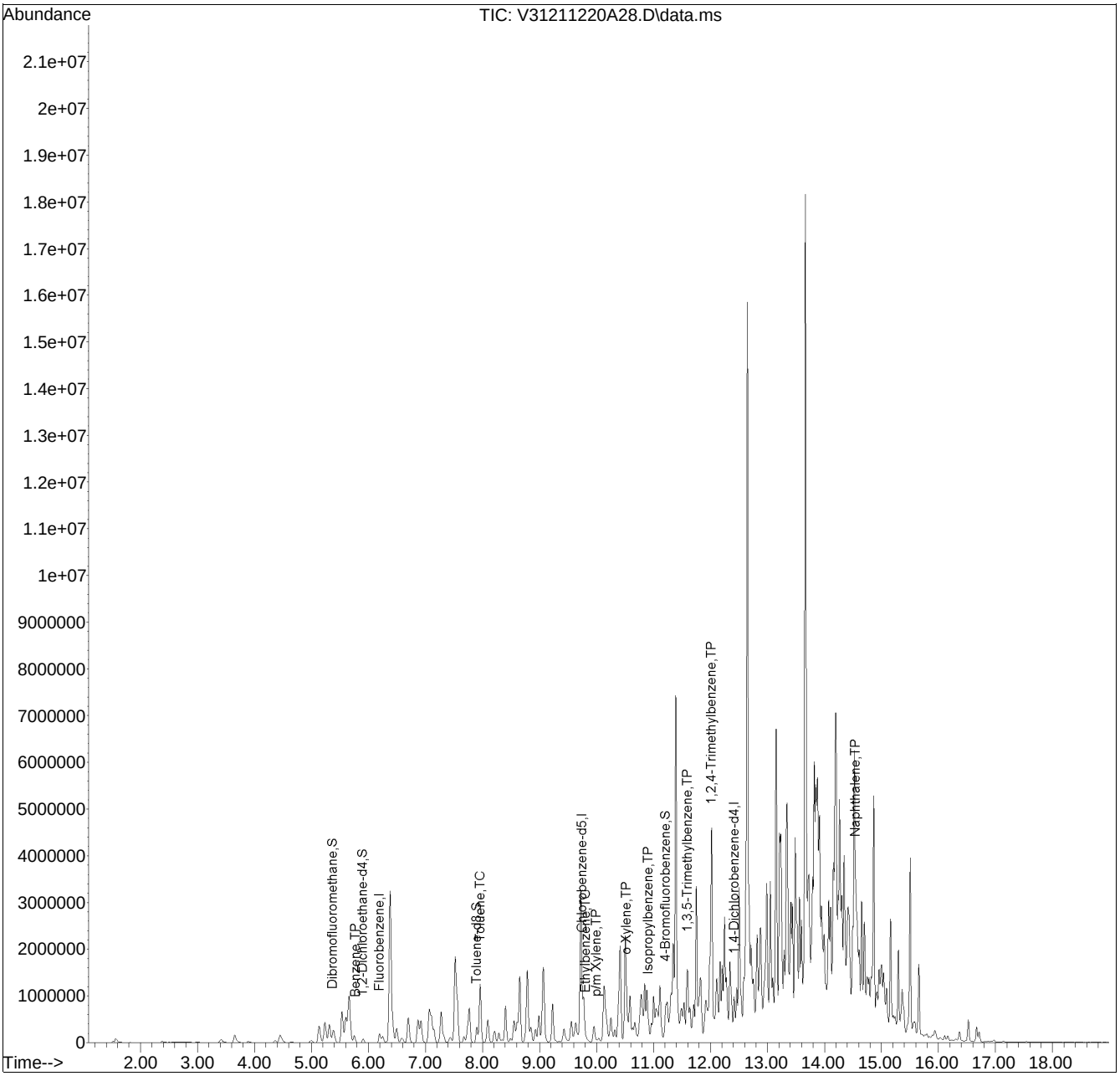


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA131\2021\211220A\
Data File : V31211220A28.D
Acq On : 20 Dec 2021 06:17 pm
Operator : VOA131:MV
Sample : l2167219-13,31H,5.33,5,0.100,,a
Misc : WG1585981,ICAL18518
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Dec 21 05:07:51 2021
Quant Method : I:\VOLATILES\VOA131\2021\211220A\V31_211202A_8260D.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Dec 03 10:30:02 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list20A\V31211220A01.D•

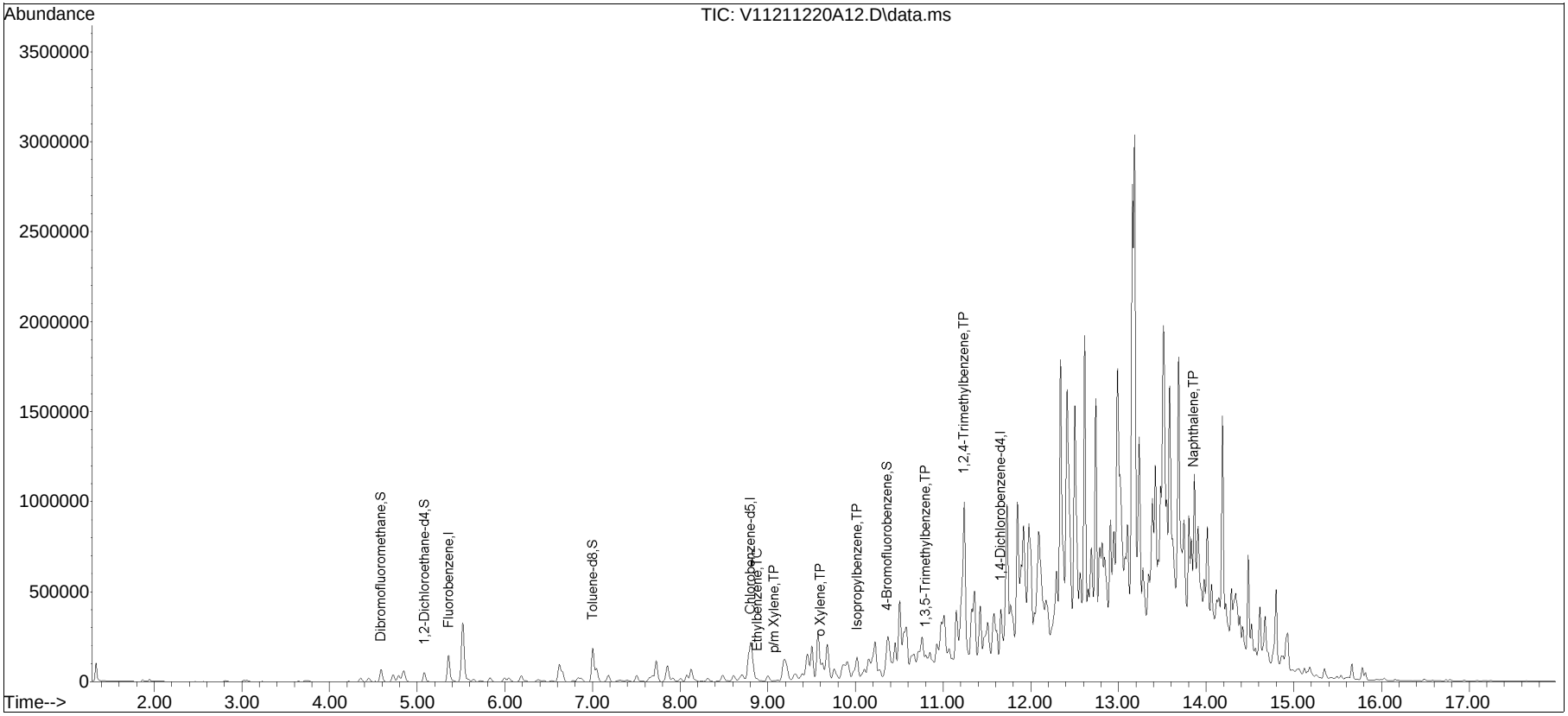


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\211220A\
Data File : V11211220A12.D
Acq On : 20 Dec 2021 12:43 pm
Operator : VOA111:MV
Sample : L2167219-14,31,4.21,5,,B
Misc : WG1586011,ICAL18566
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Dec 21 08:40:26 2021
Quant Method : I:\VOLATILES\VOA111\2021\211220A\V111_211214A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Dec 14 12:27:59 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list20A\V11211220A01.D•

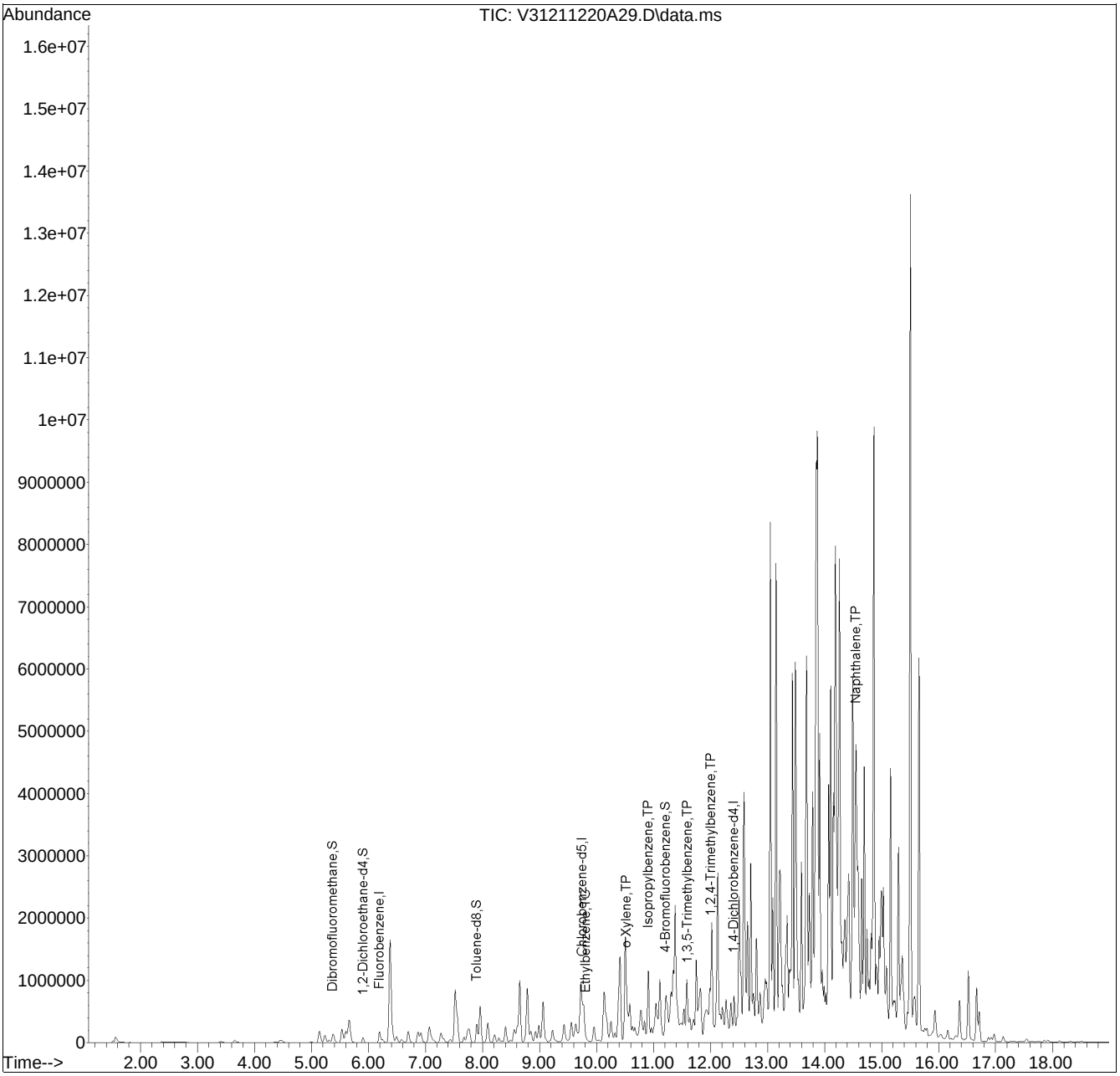


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA131\2021\211220A\
Data File : V31211220A29.D
Acq On : 20 Dec 2021 06:40 pm
Operator : VOA131:MV
Sample : l2167219-15,31H,5.71,5,0.100,,a
Misc : WG1585981,ICAL18518
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Dec 21 06:01:53 2021
Quant Method : I:\VOLATILES\VOA131\2021\211220A\V31_211202A_8260D.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Dec 03 10:30:02 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list20A\V31211220A01.D•

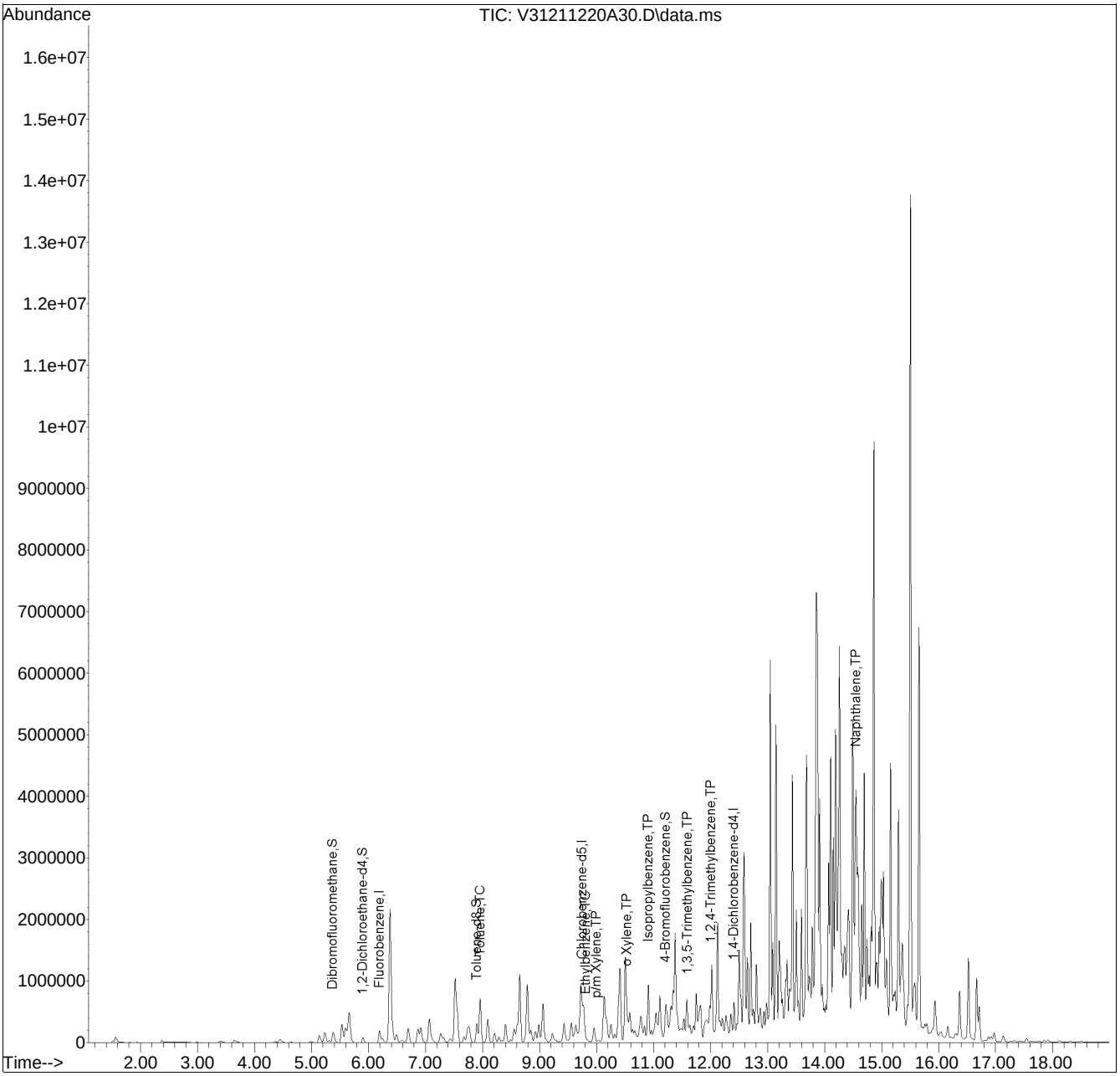


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA131\2021\211220A\
Data File : V31211220A30.D
Acq On : 20 Dec 2021 07:02 pm
Operator : VOA131:MV
Sample : l2167219-16,31H,5.32,5,0.100,,a
Misc : WG1585981,ICAL18518
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 21 06:02:25 2021
Quant Method : I:\VOLATILES\VOA131\2021\211220A\V31_211202A_8260D.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Dec 03 10:30:02 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list20A\V31211220A01.D•



ANALYTICAL REPORT

Lab Number:	L2167531
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.005.03
Report Date:	12/27/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167531
Report Date: 12/27/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2167531-01	PB-253-11-SS01	SOIL	PHILADELPHIA, PA	12/08/21 09:10	12/08/21
L2167531-02	PB-253-12-SS01	SOIL	PHILADELPHIA, PA	12/08/21 09:20	12/08/21
L2167531-03	PB-253-13-SS01	SOIL	PHILADELPHIA, PA	12/08/21 09:35	12/08/21
L2167531-04	PB-253-14-SS01	SOIL	PHILADELPHIA, PA	12/08/21 09:50	12/08/21
L2167531-05	PB-253-15-SS01	SOIL	PHILADELPHIA, PA	12/08/21 10:00	12/08/21
L2167531-06	PB-253-16-SS01	SOIL	PHILADELPHIA, PA	12/08/21 10:15	12/08/21
L2167531-07	PB-253-17-SS01	SOIL	PHILADELPHIA, PA	12/08/21 10:30	12/08/21
L2167531-08	PB-883-08-SS01	SOIL	PHILADELPHIA, PA	12/08/21 11:35	12/08/21
L2167531-09	PB-883-09-SS01	SOIL	PHILADELPHIA, PA	12/08/21 11:55	12/08/21
L2167531-10	PB-883-10-SS01	SOIL	PHILADELPHIA, PA	12/08/21 12:15	12/08/21
L2167531-11	PB-883-11-SS01	SOIL	PHILADELPHIA, PA	12/08/21 12:45	12/08/21
L2167531-12	PB-883-12-SS01	SOIL	PHILADELPHIA, PA	12/08/21 13:00	12/08/21
L2167531-13	PB-883-13-SS01	SOIL	PHILADELPHIA, PA	12/08/21 13:10	12/08/21
L2167531-14	PB-883-14-SS01	SOIL	PHILADELPHIA, PA	12/08/21 13:20	12/08/21
L2167531-15	PB-883-16-SS01	SOIL	PHILADELPHIA, PA	12/08/21 13:25	12/08/21
L2167531-16	PB-883-17-SS01	SOIL	PHILADELPHIA, PA	12/08/21 13:40	12/08/21
L2167531-17	PB-883-18-SS01	SOIL	PHILADELPHIA, PA	12/08/21 13:50	12/08/21
L2167531-18	PB-883-19-SS01	SOIL	PHILADELPHIA, PA	12/08/21 14:00	12/08/21
L2167531-19	PB-883-22-SS01	SOIL	PHILADELPHIA, PA	12/08/21 14:05	12/08/21
L2167531-20	PB-883-23-SS01	SOIL	PHILADELPHIA, PA	12/08/21 14:15	12/08/21
L2167531-21	PB-883-24-SS01	SOIL	PHILADELPHIA, PA	12/08/21 14:30	12/08/21
L2167531-22	FB-211208-1	WATER	PHILADELPHIA, PA	12/08/21 14:40	12/08/21
L2167531-23	FB-211208-2	WATER	PHILADELPHIA, PA	12/08/21 14:45	12/08/21
L2167531-24	DUP-24	SOIL	PHILADELPHIA, PA	12/08/21 00:00	12/08/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2167531-25	TB-211208	WATER	PHILADELPHIA, PA	12/08/21 00:00	12/08/21

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167531
Project Number:	200.00135.005.03	**Report Date:**	12/27/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167531
Project Number:	200.00135.005.03	**Report Date:**	12/27/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2167531-17: The surrogate recoveries are outside the acceptance criteria for toluene-d8 (185%) and 4-bromofluorobenzene (167%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Semivolatile Organics

L2167531-15D, -16D and -17D: The sample has elevated detection limits due to the dilution required by the sample matrix.

Semivolatile Organics by SIM

L2167531-23: The Field Blank has a concentration above the reporting limit for Naphthalene and Phenanthrene. The sample was re-extracted with the method required holding time exceeded and was non-detect for this target compound. The results of both extractions are reported.

Total Metals

The WG1585605-3 MS recovery, performed on L2167531-08, is outside the acceptance criteria for lead (63%). A post digestion spike was performed and yielded an unacceptable recovery for lead (62%). The serial dilution recovery was not applicable; therefore, this element fails the matrix test and the result reported in the native sample should be considered estimated.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Title: Technical Director/Representative Date: 12/27/21

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-01
Client ID: PB-253-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 09:10
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 02:19
Analyst: MKS
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
Toluene	ND		mg/kg	0.00089	0.00048	1
Ethylbenzene	ND		mg/kg	0.00089	0.00012	1
Isopropylbenzene	ND		mg/kg	0.00089	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1
Naphthalene	ND		mg/kg	0.0036	0.00058	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-02
Client ID: PB-253-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 09:20
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 00:49
Analyst: MKS
Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
Toluene	ND		mg/kg	0.0011	0.00058	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00036	1
Naphthalene	ND		mg/kg	0.0043	0.00070	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	111		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-03
Client ID: PB-253-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 09:35
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 01:11
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0029	0.00029	1
Benzene	ND		mg/kg	0.00072	0.00024	1
Toluene	ND		mg/kg	0.0014	0.00078	1
Ethylbenzene	ND		mg/kg	0.0014	0.00020	1
Isopropylbenzene	ND		mg/kg	0.0014	0.00016	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0029	0.00028	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0029	0.00048	1
Naphthalene	ND		mg/kg	0.0058	0.00094	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	111		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-04
Client ID: PB-253-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 09:50
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 01:34
Analyst: MKS
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00053	0.00018	1
Toluene	ND		mg/kg	0.0011	0.00058	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00036	1
Naphthalene	ND		mg/kg	0.0042	0.00069	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	110		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-05
Client ID: PB-253-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 10:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 01:57
Analyst: MKS
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00052	0.00017	1
Toluene	ND		mg/kg	0.0010	0.00057	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1
Naphthalene	ND		mg/kg	0.0042	0.00068	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	109		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-06
Client ID: PB-253-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 10:15
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 06:53
Analyst: AJK
Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00052	0.00017	1
Toluene	ND		mg/kg	0.0010	0.00056	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1
Naphthalene	ND		mg/kg	0.0042	0.00068	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-07
Client ID: PB-253-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 10:30
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 07:14
Analyst: AJK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0027	0.00028	1
Benzene	ND		mg/kg	0.00068	0.00023	1
Toluene	ND		mg/kg	0.0014	0.00074	1
Ethylbenzene	ND		mg/kg	0.0014	0.00019	1
Isopropylbenzene	ND		mg/kg	0.0014	0.00015	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0027	0.00026	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0027	0.00046	1
Naphthalene	ND		mg/kg	0.0055	0.00089	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	110		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-08
Client ID: PB-883-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 11:35
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 07:34
Analyst: AJK
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00061	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	107		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-09
Client ID: PB-883-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 11:55
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 07:55
Analyst: AJK
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	109		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-10
Client ID: PB-883-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 12:15
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 08:16
Analyst: AJK
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00044	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00089	0.00023	1
Toluene	ND		mg/kg	0.00089	0.00048	1
1,2-Dibromoethane	ND		mg/kg	0.00044	0.00026	1
Ethylbenzene	ND		mg/kg	0.00089	0.00012	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00089	0.00026	1
Xylenes, Total	ND		mg/kg	0.00089	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00089	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	111		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-11
Client ID: PB-883-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 12:45
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 08:36
Analyst: AJK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00095	0.00024	1
Toluene	ND		mg/kg	0.00095	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00095	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00053	1
o-Xylene	ND		mg/kg	0.00095	0.00028	1
Xylenes, Total	ND		mg/kg	0.00095	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00095	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	112		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-12
Client ID: PB-883-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 08:57
Analyst: AJK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00057	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00057	0.00034	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00064	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	113		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-13
Client ID: PB-883-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:10
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 09:18
Analyst: AJK
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00096	0.00025	1
Toluene	ND		mg/kg	0.00096	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00096	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00096	0.00028	1
Xylenes, Total	ND		mg/kg	0.00096	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00096	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-14
Client ID: PB-883-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 13:20
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 13:26
Analyst: AJK
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0025	0.00025	1
Benzene	ND		mg/kg	0.00062	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00032	1
Toluene	ND		mg/kg	0.0012	0.00067	1
1,2-Dibromoethane	ND		mg/kg	0.00062	0.00036	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0025	0.00069	1
o-Xylene	ND		mg/kg	0.0012	0.00036	1
Xylenes, Total	ND		mg/kg	0.0012	0.00036	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0025	0.00024	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0025	0.00041	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	115		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-15
Client ID: PB-883-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:25
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 09:38
Analyst: AJK
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00023	1
Benzene	ND		mg/kg	0.00056	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00061	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00063	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	0.00019	J	mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-16
Client ID: PB-883-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:40
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 22:10
Analyst: JC
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0026	0.00026	1
Benzene	ND		mg/kg	0.00064	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00033	1
Toluene	ND		mg/kg	0.0013	0.00070	1
1,2-Dibromoethane	ND		mg/kg	0.00064	0.00038	1
Ethylbenzene	ND		mg/kg	0.0013	0.00018	1
p/m-Xylene	ND		mg/kg	0.0026	0.00072	1
o-Xylene	ND		mg/kg	0.0013	0.00037	1
Xylenes, Total	ND		mg/kg	0.0013	0.00037	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0026	0.00025	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0026	0.00043	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	111		70-130
4-Bromofluorobenzene	**152**	Q	70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-17
Client ID: PB-883-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:50
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/22/21 08:04
Analyst: MV
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.013	1
Benzene	ND		mg/kg	0.032	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.064	0.016	1
Toluene	ND		mg/kg	0.064	0.035	1
1,2-Dibromoethane	ND		mg/kg	0.032	0.019	1
Ethylbenzene	ND		mg/kg	0.064	0.0090	1
p/m-Xylene	ND		mg/kg	0.13	0.036	1
o-Xylene	0.044	J	mg/kg	0.064	0.019	1
Xylenes, Total	0.044	J	mg/kg	0.064	0.019	1
Isopropylbenzene	0.82		mg/kg	0.064	0.0070	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.13	0.012	1
1,2,4-Trimethylbenzene	0.040	J	mg/kg	0.13	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	**185**	Q	70-130
4-Bromofluorobenzene	**167**	Q	70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-18
Client ID: PB-883-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 11:42
Analyst: MV
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	123		70-130
Dibromofluoromethane	115		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-19
Client ID: PB-883-22-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:05
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 10:20
Analyst: AJK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.00024	J	mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	113		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-20
Client ID: PB-883-23-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:15
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 10:40
Analyst: AJK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0030	0.00030	1
Benzene	ND		mg/kg	0.00074	0.00025	1
1,2-Dichloroethane	ND		mg/kg	0.0015	0.00038	1
Toluene	ND		mg/kg	0.0015	0.00081	1
1,2-Dibromoethane	ND		mg/kg	0.00074	0.00044	1
Ethylbenzene	ND		mg/kg	0.0015	0.00021	1
p/m-Xylene	ND		mg/kg	0.0030	0.00083	1
o-Xylene	ND		mg/kg	0.0015	0.00043	1
Xylenes, Total	ND		mg/kg	0.0015	0.00043	1
Isopropylbenzene	ND		mg/kg	0.0015	0.00016	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0030	0.00029	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0030	0.00050	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	110		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-21
Client ID: PB-883-24-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:30
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 11:01
Analyst: AJK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	109		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-22
Client ID: FB-211208-1
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:40
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/20/21 16:24
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/20/21 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-22
Client ID: FB-211208-1
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 14:40
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/19/21 09:21
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-23
Client ID: FB-211208-2
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:45
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/20/21 16:32
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/20/21 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-23
Client ID: FB-211208-2
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:45
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/19/21 09:41
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-24
Client ID: DUP-24
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 00:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 11:22
Analyst: AJK
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00057	0.00019	1
Toluene	ND		mg/kg	0.0011	0.00062	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1
Naphthalene	ND		mg/kg	0.0046	0.00075	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	113		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-25
Client ID: TB-211208
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 00:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/20/21 16:41
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/20/21 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-25
Client ID: TB-211208
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 00:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/22/21 12:22
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	91		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/18/21 17:40
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-05 Batch: WG1585264-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
Toluene	ND		mg/kg	0.0010	0.00054
Ethylbenzene	ND		mg/kg	0.0010	0.00014
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033
Naphthalene	ND		mg/kg	0.0040	0.00065

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2167531

Project Number: 200.00135.005.03 **Report Date:** 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/20/21 10:40
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 18 Batch: WG1585532-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 12/20/21 14:42
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/20/21 12:30

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 22-23,25 Batch: WG1585549-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/19/21 06:32
Analyst: TMS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 06-15,19-21,24 Batch: WG1585594-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033
Naphthalene	ND		mg/kg	0.0040	0.00065

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/19/21 08:42
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 22-23 Batch: WG1585679-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2167531

Project Number: 200.00135.005.03 **Report Date:** 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/20/21 19:34
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 16 Batch: WG1586528-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/22/21 07:39
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 17 Batch: WG1586695-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/22/21 08:23
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 25 Batch: WG1586738-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	100		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167531
Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-05 Batch: WG1585264-3 WG1585264-4								
Methyl tert butyl ether	97		93		66-130	4		30
Benzene	88		90		70-130	2		30
Toluene	84		86		70-130	2		30
Ethylbenzene	87		89		70-130	2		30
Isopropylbenzene	83		84		70-130	1		30
1,3,5-Trimethylbenzene	83		84		70-130	1		30
1,2,4-Trimethylbenzene	83		84		70-130	1		30
Naphthalene	82		78		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	114		112		70-130
Toluene-d8	100		99		70-130
4-Bromofluorobenzene	98		97		70-130
Dibromofluoromethane	109		110		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 18 Batch: WG1585532-3 WG1585532-4								
Methyl tert butyl ether	86		94		66-130	9		30
Benzene	98		97		70-130	1		30
1,2-Dichloroethane	88		91		70-130	3		30
Toluene	100		100		70-130	0		30
1,2-Dibromoethane	93		102		70-130	9		30
Ethylbenzene	101		100		70-130	1		30
p/m-Xylene	105		104		70-130	1		30
o-Xylene	105		104		70-130	1		30
Isopropylbenzene	106		101		70-130	5		30
1,3,5-Trimethylbenzene	109		103		70-130	6		30
1,2,4-Trimethylbenzene	107		103		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	91		93		70-130
Toluene-d8	102		101		70-130
4-Bromofluorobenzene	100		99		70-130
Dibromofluoromethane	96		97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 22-23,25 Batch: WG1585549-2								
1,2-Dibromoethane	98		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 06-15,19-21,24 Batch: WG1585594-3 WG1585594-4								
Methyl tert butyl ether	92		106		66-130	14		30
Benzene	100		101		70-130	1		30
1,2-Dichloroethane	92		99		70-130	7		30
Toluene	103		105		70-130	2		30
1,2-Dibromoethane	96		109		70-130	13		30
Ethylbenzene	106		107		70-130	1		30
p/m-Xylene	110		110		70-130	0		30
o-Xylene	111		113		70-130	2		30
Isopropylbenzene	115		108		70-130	6		30
1,3,5-Trimethylbenzene	118		109		70-130	8		30
1,2,4-Trimethylbenzene	116		109		70-130	6		30
Naphthalene	98		105		70-130	7		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	88		94		70-130
Toluene-d8	102		102		70-130
4-Bromofluorobenzene	101		99		70-130
Dibromofluoromethane	97		97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 22-23 Batch: WG1585679-3 WG1585679-4								
Methyl tert butyl ether	83		89		63-130	7		20
Benzene	96		100		70-130	4		20
1,2-Dichloroethane	88		88		70-130	0		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		110		70-130	10		20
p/m-Xylene	105		110		70-130	5		20
o-Xylene	100		105		70-130	5		20
Isopropylbenzene	99		110		70-130	11		20
1,3,5-Trimethylbenzene	98		100		64-130	2		20
1,2,4-Trimethylbenzene	96		100		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		95		70-130
Toluene-d8	103		102		70-130
4-Bromofluorobenzene	97		100		70-130
Dibromofluoromethane	95		94		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 16 Batch: WG1586528-3 WG1586528-4								
Methyl tert butyl ether	93		92		66-130	1		30
Benzene	100		99		70-130	1		30
1,2-Dichloroethane	79		79		70-130	0		30
Toluene	102		101		70-130	1		30
1,2-Dibromoethane	87		88		70-130	1		30
Ethylbenzene	104		103		70-130	1		30
p/m-Xylene	107		107		70-130	0		30
o-Xylene	105		102		70-130	3		30
Isopropylbenzene	104		99		70-130	5		30
1,3,5-Trimethylbenzene	101		102		70-130	1		30
1,2,4-Trimethylbenzene	100		101		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	87		87		70-130
Toluene-d8	103		104		70-130
4-Bromofluorobenzene	96		97		70-130
Dibromofluoromethane	94		95		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 17 Batch: WG1586695-3 WG1586695-4								
Methyl tert butyl ether	94		96		66-130	2		30
Benzene	89		93		70-130	4		30
1,2-Dichloroethane	90		95		70-130	5		30
Toluene	91		95		70-130	4		30
1,2-Dibromoethane	99		104		70-130	5		30
Ethylbenzene	92		96		70-130	4		30
p/m-Xylene	94		99		70-130	5		30
o-Xylene	93		98		70-130	5		30
Isopropylbenzene	94		96		70-130	2		30
1,3,5-Trimethylbenzene	93		97		70-130	4		30
1,2,4-Trimethylbenzene	93		96		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		97		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	98		96		70-130
Dibromofluoromethane	98		97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 25 Batch: WG1586738-3 WG1586738-4								
Methyl tert butyl ether	82		86		63-130	5		20
Benzene	100		100		70-130	0		20
1,2-Dichloroethane	93		96		70-130	3		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	100		105		70-130	5		20
o-Xylene	95		100		70-130	5		20
Isopropylbenzene	110		100		70-130	10		20
1,3,5-Trimethylbenzene	110		100		64-130	10		20
1,2,4-Trimethylbenzene	110		100		70-130	10		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		100		70-130
Toluene-d8	98		95		70-130
4-Bromofluorobenzene	104		100		70-130
Dibromofluoromethane	97		96		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-08
Client ID: PB-883-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 11:35
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 00:35
Analyst: EK
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	82		30-120
4-Terphenyl-d14	81		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-09
Client ID: PB-883-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 11:55
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 00:58
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	86		30-120
4-Terphenyl-d14	96		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-10
Client ID: PB-883-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 12:15
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 01:21
Analyst: EK
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	85		30-120
4-Terphenyl-d14	91		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-11
Client ID: PB-883-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 12:45
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 01:44
Analyst: EK
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	87		30-120
4-Terphenyl-d14	90		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-12
Client ID: PB-883-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 05:35
Analyst: EK
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	0.028	J	mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	0.021	J	mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	76		30-120
4-Terphenyl-d14	73		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-13
Client ID: PB-883-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:10
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 05:58
Analyst: EK
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	93		30-120
4-Terphenyl-d14	78		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-14
Client ID: PB-883-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:20
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 06:21
Analyst: EK
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.21	0.025	1
Fluorene	ND		mg/kg	0.21	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.035	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	91		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-15 D
Client ID: PB-883-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:25
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/22/21 12:00
Analyst: CMM
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.99	0.12	5
Fluorene	ND		mg/kg	0.99	0.096	5
Phenanthrene	ND		mg/kg	0.59	0.12	5
Anthracene	ND		mg/kg	0.59	0.19	5
Pyrene	0.36	J	mg/kg	0.59	0.098	5
Benzo(a)anthracene	ND		mg/kg	0.59	0.11	5
Chrysene	0.43	J	mg/kg	0.59	0.10	5
Benzo(b)fluoranthene	ND		mg/kg	0.59	0.17	5
Benzo(a)pyrene	ND		mg/kg	0.79	0.24	5
Benzo(ghi)perylene	ND		mg/kg	0.79	0.12	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	57		30-120
4-Terphenyl-d14	53		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-16 D
Client ID: PB-883-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:40
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 15:11
Analyst: CMM
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.90	0.11	5
Fluorene	0.29	J	mg/kg	0.90	0.087	5
Phenanthrene	0.43	J	mg/kg	0.54	0.11	5
Anthracene	ND		mg/kg	0.54	0.18	5
Pyrene	0.20	J	mg/kg	0.54	0.089	5
Benzo(a)anthracene	0.13	J	mg/kg	0.54	0.10	5
Chrysene	0.36	J	mg/kg	0.54	0.094	5
Benzo(b)fluoranthene	ND		mg/kg	0.54	0.15	5
Benzo(a)pyrene	ND		mg/kg	0.72	0.22	5
Benzo(ghi)perylene	ND		mg/kg	0.72	0.10	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	114		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	78		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-17 D
Client ID: PB-883-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 13:50
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 15:35
Analyst: CMM
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.91	0.11	5
Fluorene	0.25	J	mg/kg	0.91	0.088	5
Phenanthrene	0.52	J	mg/kg	0.54	0.11	5
Anthracene	ND		mg/kg	0.54	0.18	5
Pyrene	0.19	J	mg/kg	0.54	0.090	5
Benzo(a)anthracene	ND		mg/kg	0.54	0.10	5
Chrysene	0.37	J	mg/kg	0.54	0.094	5
Benzo(b)fluoranthene	ND		mg/kg	0.54	0.15	5
Benzo(a)pyrene	ND		mg/kg	0.72	0.22	5
Benzo(ghi)perylene	ND		mg/kg	0.72	0.11	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	93		23-120
2-Fluorobiphenyl	62		30-120
4-Terphenyl-d14	66		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-18
Client ID: PB-883-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 13:36
Analyst: SLR
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.021	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	0.027	J	mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	112		23-120
2-Fluorobiphenyl	84		30-120
4-Terphenyl-d14	80		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-19
Client ID: PB-883-22-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:05
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 07:08
Analyst: EK
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	86		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-20
Client ID: PB-883-23-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:15
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 07:31
Analyst: EK
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	72		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-21
Client ID: PB-883-24-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:30
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/20/21 07:55
Analyst: EK
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	78		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-22
Client ID: FB-211208-1
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:40
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/18/21 17:35
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 12/14/21 00:07

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.09	J	ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	70		23-120
2-Fluorobiphenyl	74		15-120
4-Terphenyl-d14	86		41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-23
Client ID: FB-211208-2
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:45
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/18/21 18:37
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 12/14/21 00:07

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	1.1		ug/l	0.10	0.05	1
Fluorene	0.02	J	ug/l	0.10	0.01	1
Phenanthrene	0.13		ug/l	0.05	0.02	1
Anthracene	0.03	J	ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	75		15-120
4-Terphenyl-d14	85		41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-23 RE
Client ID: FB-211208-2
Sample Location: PHILADELPHIA, PA

Date Collected: 12/08/21 14:45
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/26/21 14:09
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 12/23/21 18:58

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	88		15-120
4-Terphenyl-d14	101		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 12/18/21 17:14
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 12/14/21 00:07

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 22-23 Batch: WG1582804-1					
Naphthalene	0.06	J	ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	0.01	J	ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	79		15-120
4-Terphenyl-d14	90		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/19/21 22:15
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 12/18/21 20:28

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 08-21 Batch: WG1585095-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.097	0.020
Anthracene	ND		mg/kg	0.097	0.032
Pyrene	ND		mg/kg	0.097	0.016
Benzo(a)anthracene	ND		mg/kg	0.097	0.018
Chrysene	ND		mg/kg	0.097	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.097	0.027
Benzo(a)pyrene	ND		mg/kg	0.13	0.039
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	83		30-120
4-Terphenyl-d14	100		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 12/26/21 13:50
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 12/23/21 15:09

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 23 Batch: WG1587278-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	56		23-120
2-Fluorobiphenyl	64		15-120
4-Terphenyl-d14	74		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 22-23 Batch: WG1582804-2 WG1582804-3								
Naphthalene	81		77		40-140	5		40
Fluorene	86		84		40-140	2		40
Phenanthrene	79		78		40-140	1		40
Anthracene	89		87		40-140	2		40
Pyrene	90		89		26-127	1		40
Benzo(a)anthracene	81		80		40-140	1		40
Chrysene	91		92		40-140	1		40
Benzo(b)fluoranthene	81		83		40-140	2		40
Benzo(a)pyrene	91		89		40-140	2		40
Benzo(ghi)perylene	82		80		40-140	2		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	81		82		23-120
2-Fluorobiphenyl	90		84		15-120
4-Terphenyl-d14	95		94		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 08-21 Batch: WG1585095-2 WG1585095-3								
Naphthalene	75		88		40-140	16		50
Fluorene	83		99		40-140	18		50
Phenanthrene	81		95		40-140	16		50
Anthracene	82		96		40-140	16		50
Pyrene	82		97		35-142	17		50
Benzo(a)anthracene	86		103		40-140	18		50
Chrysene	82		98		40-140	18		50
Benzo(b)fluoranthene	84		106		40-140	23		50
Benzo(a)pyrene	81		98		40-140	19		50
Benzo(ghi)perylene	91		109		40-140	18		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	73		84		23-120
2-Fluorobiphenyl	83		98		30-120
4-Terphenyl-d14	89		104		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 23 Batch: WG1587278-2 WG1587278-3								
Naphthalene	56		65		40-140	15		40
Fluorene	62		71		40-140	14		40
Phenanthrene	60		73		40-140	20		40
Anthracene	64		73		40-140	13		40
Pyrene	65		88		26-127	30		40
Benzo(a)anthracene	62		81		40-140	27		40
Chrysene	61		82		40-140	29		40
Benzo(b)fluoranthene	69		96		40-140	33		40
Benzo(a)pyrene	67		91		40-140	30		40
Benzo(ghi)perylene	57		76		40-140	29		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	55		63		23-120
2-Fluorobiphenyl	63		70		15-120
4-Terphenyl-d14	68		78		41-149

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-08
Client ID: PB-883-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 11:35
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	12.8		mg/kg	2.48	0.133	1	12/20/21 23:32	12/22/21 00:53	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-09
Client ID: PB-883-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 11:55
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.18		mg/kg	2.03	0.109	1	12/20/21 23:32	12/22/21 00:34	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-10
Client ID: PB-883-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 12:15
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.67		mg/kg	2.14	0.114	1	12/20/21 23:32	12/22/21 00:39	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-11
Client ID: PB-883-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 12:45
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.25		mg/kg	2.32	0.124	1	12/20/21 23:32	12/22/21 00:44	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-12
Client ID: PB-883-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 13:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	11.0		mg/kg	2.27	0.122	1	12/20/21 23:32	12/22/21 00:48	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-13
Client ID: PB-883-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 13:10
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.72		mg/kg	2.44	0.130	1	12/20/21 23:32	12/22/21 01:25	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-14
Client ID: PB-883-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 13:20
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.14		mg/kg	2.35	0.126	1	12/20/21 23:32	12/22/21 01:30	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-15
Client ID: PB-883-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 13:25
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	8.62		mg/kg	2.28	0.122	1	12/20/21 23:32	12/22/21 01:35	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-16
Client ID: PB-883-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 13:40
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.06		mg/kg	4.20	0.225	2	12/20/21 23:32	12/22/21 11:19	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-17
Client ID: PB-883-18-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 13:50
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.49		mg/kg	4.24	0.227	2	12/20/21 23:32	12/22/21 11:24	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-18
Client ID: PB-883-19-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 14:00
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.75		mg/kg	4.24	0.228	2	12/20/21 23:32	12/22/21 11:29	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-19
Client ID: PB-883-22-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 14:05
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.03		mg/kg	2.25	0.121	1	12/20/21 23:32	12/22/21 01:54	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-20
Client ID: PB-883-23-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 14:15
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.64		mg/kg	2.26	0.121	1	12/20/21 23:32	12/22/21 01:58	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-21
Client ID: PB-883-24-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 14:30
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.46		mg/kg	2.27	0.122	1	12/20/21 23:32	12/22/21 02:03	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-22
Client ID: FB-211208-1
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 14:40
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	12/14/21 05:12	12/17/21 02:53	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167531
Project Number: 200.00135.005.03
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-23
Client ID: FB-211208-2
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 14:45
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	12/14/21 05:12	12/17/21 02:57	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 22-23 Batch: WG1582832-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	12/14/21 05:12	12/16/21 23:54	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 08-21 Batch: WG1585605-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	12/20/21 23:32	12/22/21 00:16	1,6010D	BV

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 22-23 Batch: WG1582832-2								
Lead, Total	100		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 08-21 Batch: WG1585605-2 SRM Lot Number: D113-540								
Lead, Total	84		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167531
Report Date: 12/27/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 22-23 QC Batch ID: WG1582832-3 WG1582832-4 QC Sample: L2167147-05 Client ID: MS Sample												
Lead, Total	1.973	530	492.8	93		482.8	91		75-125	2		20
Total Metals - Mansfield Lab Associated sample(s): 08-21 QC Batch ID: WG1585605-3 QC Sample: L2167531-08 Client ID: PB-883-08-SS01												
Lead, Total	12.8	51	44.9	**63**	Q	-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167531
Report Date: 12/27/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 08-21 QC Batch ID: WG1585605-4 QC Sample: L2167531-08 Client ID: PB-883-08-SS01						
Lead, Total	12.8	10.9	mg/kg	16		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-01
Client ID: PB-253-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 09:10
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.9		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-02
Client ID: PB-253-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 09:20
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.5		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-03
Client ID: PB-253-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 09:35
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.0		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-04
Client ID: PB-253-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 09:50
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.8		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-05
Client ID: PB-253-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 10:00
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.2		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-06
Client ID: PB-253-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 10:15
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.8		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-07
Client ID: PB-253-17-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 10:30
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.8		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-08
Client ID: PB-883-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 11:35
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.8		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-09
Client ID: PB-883-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 11:55
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.6		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-10
Client ID: PB-883-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 12:15
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.9		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-11
Client ID: PB-883-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 12:45
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-12
Client ID: PB-883-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 13:00
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.9		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-13
Client ID: PB-883-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 13:10
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.6		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-14
Client ID: PB-883-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 13:20
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.4		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-15
Client ID: PB-883-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 13:25
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.4		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-16
Client ID: PB-883-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 13:40
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.2		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-17
Client ID: PB-883-18-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 13:50
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.9		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-18
Client ID: PB-883-19-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 14:00
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.1		%	0.100	NA	1	-	12/10/21 10:12	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-19
Client ID: PB-883-22-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 14:05
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.7		%	0.100	NA	1	-	12/10/21 10:21	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-20
Client ID: PB-883-23-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/08/21 14:15
Date Received: 12/08/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.9		%	0.100	NA	1	-	12/10/21 10:21	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-21
Client ID: PB-883-24-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/08/21 14:30
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.7		%	0.100	NA	1	-	12/10/21 10:21	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167531
Report Date: 12/27/21

SAMPLE RESULTS

Lab ID: L2167531-24
Client ID: DUP-24
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/08/21 00:00
Date Received: 12/08/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.3		%	0.100	NA	1	-	12/10/21 10:21	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167531

Report Date: 12/27/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-18 QC Batch ID: WG1581531-1 QC Sample: L2167531-01 Client ID: PB-253-11-SS01						
Solids, Total	86.9	85.4	%	2		20
General Chemistry - Westborough Lab Associated sample(s): 19-21,24 QC Batch ID: WG1581534-1 QC Sample: L2167542-04 Client ID: DUP Sample						
Solids, Total	89.6	90.1	%	1		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167531
Report Date: 12/27/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent
D	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167531-01A	Vial MeOH preserved	A	NA		2.2	Y	Absent		PA-8260HLW(14)
L2167531-01B	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-01C	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-01D	Plastic 2oz unpreserved for TS	A	NA		2.2	Y	Absent		TS(7)
L2167531-02A	Vial MeOH preserved	A	NA		2.2	Y	Absent		PA-8260HLW(14)
L2167531-02B	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-02C	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-02D	Plastic 2oz unpreserved for TS	A	NA		2.2	Y	Absent		TS(7)
L2167531-03A	Vial MeOH preserved	A	NA		2.2	Y	Absent		PA-8260HLW(14)
L2167531-03B	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-03C	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-03D	Plastic 2oz unpreserved for TS	A	NA		2.2	Y	Absent		TS(7)
L2167531-04A	Vial MeOH preserved	A	NA		2.2	Y	Absent		PA-8260HLW(14)
L2167531-04B	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-04C	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-04D	Plastic 2oz unpreserved for TS	A	NA		2.2	Y	Absent		TS(7)
L2167531-05A	Vial MeOH preserved	A	NA		2.2	Y	Absent		PA-8260HLW(14)
L2167531-05B	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-05C	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-05D	Plastic 2oz unpreserved for TS	A	NA		2.2	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167531
Report Date: 12/27/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167531-06A	Vial MeOH preserved	A	NA		2.2	Y	Absent		PA-8260HLW(14)
L2167531-06B	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-06C	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-06D	Plastic 2oz unpreserved for TS	A	NA		2.2	Y	Absent		TS(7)
L2167531-07A	Vial MeOH preserved	A	NA		2.2	Y	Absent		PA-8260HLW(14)
L2167531-07B	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-07C	Vial water preserved	A	NA		2.2	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-07D	Plastic 2oz unpreserved for TS	A	NA		2.2	Y	Absent		TS(7)
L2167531-08A	Vial MeOH preserved	C	NA		2.6	Y	Absent		PA-8260HLW(14)
L2167531-08B	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-08C	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-08D	Plastic 2oz unpreserved for TS	C	NA		2.6	Y	Absent		TS(7)
L2167531-08E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.6	Y	Absent		PB-TI(180)
L2167531-08F	Glass 120ml/4oz unpreserved	C	NA		2.6	Y	Absent		PA-PAH(14)
L2167531-09A	Vial MeOH preserved	C	NA		2.6	Y	Absent		PA-8260HLW(14)
L2167531-09B	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-09C	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-09D	Plastic 2oz unpreserved for TS	C	NA		2.6	Y	Absent		TS(7)
L2167531-09E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.6	Y	Absent		PB-TI(180)
L2167531-09F	Glass 120ml/4oz unpreserved	C	NA		2.6	Y	Absent		PA-PAH(14)
L2167531-10A	Vial MeOH preserved	C	NA		2.6	Y	Absent		PA-8260HLW(14)
L2167531-10B	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-10C	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-10D	Plastic 2oz unpreserved for TS	C	NA		2.6	Y	Absent		TS(7)
L2167531-10E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.6	Y	Absent		PB-TI(180)
L2167531-10F	Glass 120ml/4oz unpreserved	C	NA		2.6	Y	Absent		PA-PAH(14)
L2167531-11A	Vial MeOH preserved	C	NA		2.6	Y	Absent		PA-8260HLW(14)
L2167531-11B	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167531
Report Date: 12/27/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167531-11C	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-11D	Plastic 2oz unpreserved for TS	C	NA		2.6	Y	Absent		TS(7)
L2167531-11E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.6	Y	Absent		PB-TI(180)
L2167531-11F	Glass 120ml/4oz unpreserved	C	NA		2.6	Y	Absent		PA-PAH(14)
L2167531-12A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167531-12B	Vial water preserved	B	NA		2.1	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-12C	Vial water preserved	B	NA		2.1	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-12D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167531-12E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2167531-12F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2167531-13A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167531-13B	Vial water preserved	B	NA		2.1	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-13C	Vial water preserved	B	NA		2.1	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-13D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167531-13E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2167531-13F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2167531-14A	Vial MeOH preserved	C	NA		2.6	Y	Absent		PA-8260HLW(14)
L2167531-14B	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-14C	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-14D	Plastic 2oz unpreserved for TS	C	NA		2.6	Y	Absent		TS(7)
L2167531-14E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.6	Y	Absent		PB-TI(180)
L2167531-14F	Glass 120ml/4oz unpreserved	C	NA		2.6	Y	Absent		PA-PAH(14)
L2167531-15A	Vial MeOH preserved	C	NA		2.6	Y	Absent		PA-8260HLW(14)
L2167531-15B	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-15C	Vial water preserved	C	NA		2.6	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-15D	Plastic 2oz unpreserved for TS	C	NA		2.6	Y	Absent		TS(7)
L2167531-15E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.6	Y	Absent		PB-TI(180)
L2167531-15F	Glass 120ml/4oz unpreserved	C	NA		2.6	Y	Absent		PA-PAH(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167531
Report Date: 12/27/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167531-16A	Vial MeOH preserved	D	NA		2.5	Y	Absent		PA-8260HLW(14)
L2167531-16B	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-16C	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-16D	Plastic 2oz unpreserved for TS	D	NA		2.5	Y	Absent		TS(7)
L2167531-16E	Metals Only-Glass 60mL/2oz unpreserved	D	NA		2.5	Y	Absent		PB-TI(180)
L2167531-16F	Glass 120ml/4oz unpreserved	D	NA		2.5	Y	Absent		PA-PAH(14)
L2167531-17A	Vial MeOH preserved	D	NA		2.5	Y	Absent		PA-8260HLW(14)
L2167531-17B	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-17C	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-17D	Plastic 2oz unpreserved for TS	D	NA		2.5	Y	Absent		TS(7)
L2167531-17E	Metals Only-Glass 60mL/2oz unpreserved	D	NA		2.5	Y	Absent		PB-TI(180)
L2167531-17F	Glass 120ml/4oz unpreserved	D	NA		2.5	Y	Absent		PA-PAH(14)
L2167531-18A	Vial MeOH preserved	B	NA		2.1	Y	Absent		PA-8260HLW(14)
L2167531-18B	Vial water preserved	B	NA		2.1	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-18C	Vial water preserved	B	NA		2.1	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-18D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167531-18E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2167531-18F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2167531-19A	Vial MeOH preserved	D	NA		2.5	Y	Absent		PA-8260HLW(14)
L2167531-19B	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-19C	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-19D	Plastic 2oz unpreserved for TS	D	NA		2.5	Y	Absent		TS(7)
L2167531-19E	Metals Only-Glass 60mL/2oz unpreserved	D	NA		2.5	Y	Absent		PB-TI(180)
L2167531-19F	Glass 120ml/4oz unpreserved	D	NA		2.5	Y	Absent		PA-PAH(14)
L2167531-20A	Vial MeOH preserved	D	NA		2.5	Y	Absent		PA-8260HLW(14)
L2167531-20B	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-20C	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-20D	Plastic 2oz unpreserved for TS	D	NA		2.5	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167531
Report Date: 12/27/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167531-20E	Metals Only-Glass 60mL/2oz unpreserved	D	NA		2.5	Y	Absent		PB-TI(180)
L2167531-20F	Glass 120ml/4oz unpreserved	D	NA		2.5	Y	Absent		PA-PAH(14)
L2167531-21A	Vial MeOH preserved	A	NA		2.2	Y	Absent		PA-8260HLW(14)
L2167531-21B	Vial water preserved	B	NA		2.1	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-21C	Vial water preserved	B	NA		2.1	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-21D	Plastic 2oz unpreserved for TS	B	NA		2.1	Y	Absent		TS(7)
L2167531-21E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		2.1	Y	Absent		PB-TI(180)
L2167531-21F	Glass 120ml/4oz unpreserved	B	NA		2.1	Y	Absent		PA-PAH(14)
L2167531-22A	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2167531-22B	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2167531-22C	Vial HCl preserved	A	NA		2.2	Y	Absent		8011(14)
L2167531-22D	Plastic 250ml HNO3 preserved	A	<2	<2	2.2	Y	Absent		PB-6020T-PPB(180)
L2167531-22E	Amber 250ml unpreserved	A	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2167531-22F	Amber 250ml unpreserved	A	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2167531-23A	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2167531-23B	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2167531-23C	Vial HCl preserved	A	NA		2.2	Y	Absent		8011(14)
L2167531-23D	Plastic 250ml HNO3 preserved	A	<2	<2	2.2	Y	Absent		PB-6020T-PPB(180)
L2167531-23E	Amber 250ml unpreserved	A	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2167531-23F	Amber 250ml unpreserved	A	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2167531-24A	Vial MeOH preserved	D	NA		2.5	Y	Absent		PA-8260HLW(14)
L2167531-24B	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-24C	Vial water preserved	D	NA		2.5	Y	Absent	09-DEC-21 13:08	PA-8260HLW(14)
L2167531-24D	Plastic 2oz unpreserved for TS	D	NA		2.5	Y	Absent		TS(7)
L2167531-25A	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2167531-25B	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2167531-25C	Vial Na2S2O3 preserved	A	NA		2.2	Y	Absent		8011(14)
L2167531-25D	Vial Na2S2O3 preserved	A	NA		2.2	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167531
Report Date: 12/27/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167531
Project Number:	200.00135.005.03	**Report Date:**	12/27/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167531
Project Number:	200.00135.005.03	**Report Date:**	12/27/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167531
Project Number:	200.00135.005.03	**Report Date:**	12/27/21

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167531
Project Number:	200.00135.005.03	**Report Date:**	12/27/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

L2167531

CHAIN OF CUSTODY

PAGE 1 OF 3

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/9/21

ALPHA Job #: L2167531 GC

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client Info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist		Sample Specific Comments	TOTAL # BOTTLES
67531-01	PB-253-11-5501	12/8	0910	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-02	PB-253-12-5501		0940	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-03	PB-253-13-5501		0935	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-04	PB-253-14-5501		0950	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-05	PB-253-15-5501		1000	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-06	PB-253-16-5501		1015	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-07	PB-253-17-5501		1030	S	TS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-08	PB-883-08-5501		1135	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-09	PB-883-09-5501		1155	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-10	PB-883-10-5501	↓	1215	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
	Container Type					G	G	G	-	-	-	-	-	-	-	-	-		
	Preservative					F	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	12/8 1533		12/8/21 1530
	12/8/21 1730		12-8 1730
12-8 2030		AAL	12/8/21 2100
AAL 12/9/21 0520	12/9/21	12/8/21 0345	
		12/09/21 0525	

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-07(1-12) (rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 2 OF 3

Date Rec'd in Lab: 12/9/21

ALPHA Job #: L2167531

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist		Sample Specific Comments	TOTAL # BOTTLES
67531-11	PB-883-11-5501	12/8	1245	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		6
-12	PB-883-12-5501		1300	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-13	PB-883-13-5501		1310	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-14	PB-883-14-5501		1320	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-15	PB-883-16-5501		1325	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-16	PB-883-17-5501		1340	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-17	PB-883-18-5501		1350	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-18	PB-883-19-5501		1400	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-19	PB-883-22-5501		1405			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-20	PB-883-23-5501		1415			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
	Container Type					G	G	G	-	-	-	-	-	-	-	-	-		
	Preservative					F	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	12/8 1553		12/8/21 15:35
	12/8/21 1730		12-8 1730
	12/8 2037		12/8/21 21:00
	12/9/21		12/9/21 0345
	12/9/21 0512		12/9/21 0520

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(G)-NJ (rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 3 OF 3

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/9/21

ALPHA Job #: L2167531

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.005.03
Project Manager: William Schmidt
ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information – Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist (1-5)		Sample Specific Comments	TOTAL # BOTTLES
67531-21	PB-883-24-5501	12/8	1430	S	IS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		8
-22	FB-211208-1		1440	W	IS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		7
-23	FB-211208-2		1445	W	IS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		7
-24	DUP-24		-	S	IS	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-25	TB-211208		-	W	IS	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		

Container Type	G	G	G	-	-	-	-	-	-	-	-	-	
Preservative	F	A	A	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
	12/8 1533		12/8/21 1535
	12/8/21 1730		12/8/21 1930
	12/8 2030		

12/9/21 12/9/21 0520 12/10/21 0520

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

2100

FORM NO: 01-01(HR) (rev. 5-JAN-12)

PADEP Short List Analytical List:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6. and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

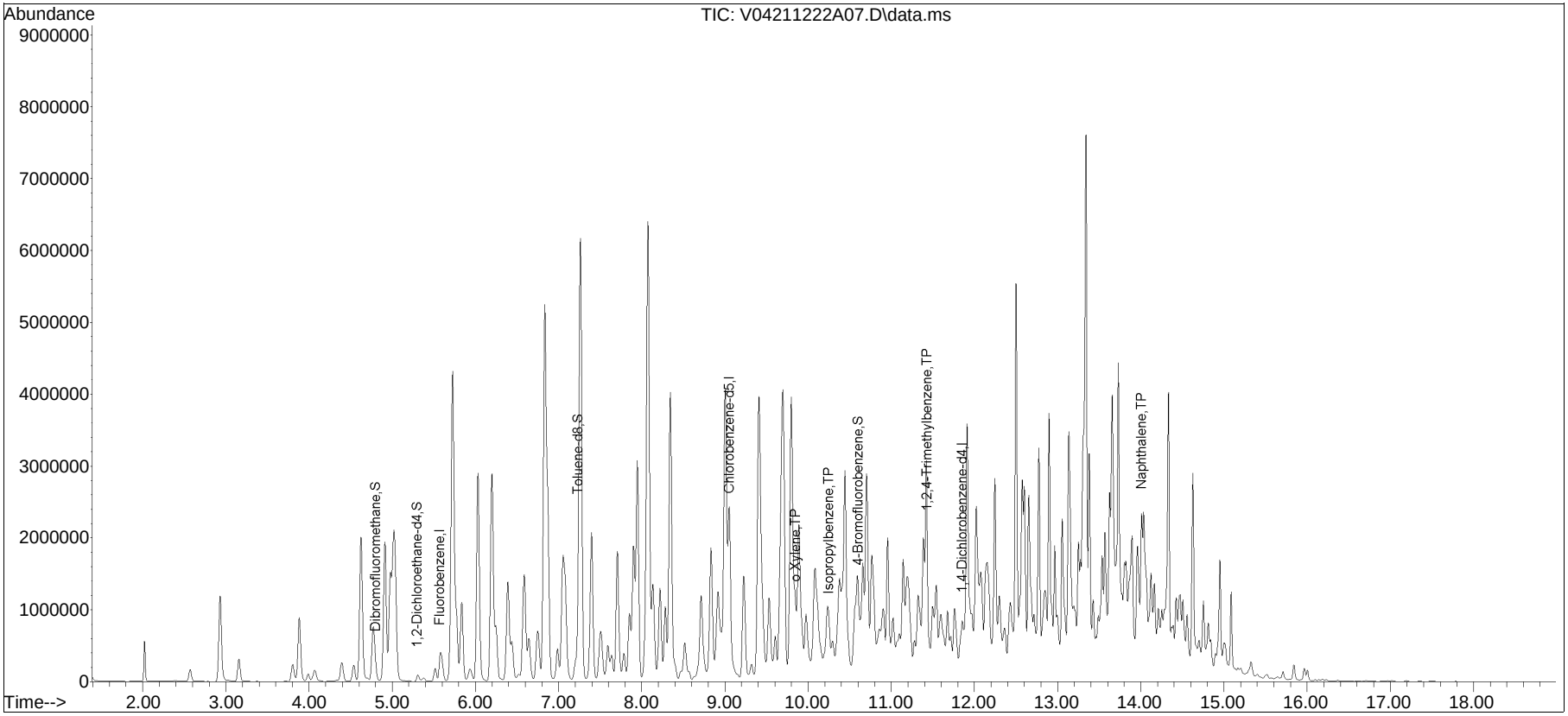
6. Waste Oil – benzene, toluene, ethyl benzene, cumene, naphthalene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, lead

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA104\2021\211222A\
Data File : V04211222A07.D
Acq On : 22 Dec 2021 8:04 am
Operator : VOA104:MV
Sample : L2167531-17,31H,4.66,5,0.100,,A
Misc : WG1586695,18128ICAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 22 12:12:01 2021
Quant Method : I:\VOLATILES\VOA104\2021\211222A\V104_211214A_8260D.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Dec 14 09:33:11 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list22A\V04211222A01.D•



ANALYTICAL REPORT

Lab Number:	L2167657
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.005.03
Report Date:	12/28/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167657
Report Date: 12/28/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2167657-01	PB-191-01-SS01	SOIL	PHILADELPHIA, PA	12/09/21 09:20	12/09/21
L2167657-02	PB-191-02-SS01	SOIL	PHILADELPHIA, PA	12/09/21 09:40	12/09/21
L2167657-03	PB-191-04-SS01	SOIL	PHILADELPHIA, PA	12/09/21 09:55	12/09/21
L2167657-04	PB-191-05-SS01	SOIL	PHILADELPHIA, PA	12/09/21 10:20	12/09/21
L2167657-05	PB-191-06-SS01	SOIL	PHILADELPHIA, PA	12/09/21 10:30	12/09/21
L2167657-06	PB-191-07-SS01	SOIL	PHILADELPHIA, PA	12/09/21 10:45	12/09/21
L2167657-07	PB-191-08-SS01	SOIL	PHILADELPHIA, PA	12/09/21 10:55	12/09/21
L2167657-08	DUP-25	SOIL	PHILADELPHIA, PA	12/09/21 00:00	12/09/21
L2167657-09	FB-211209	WATER	PHILADELPHIA, PA	12/09/21 11:00	12/09/21
L2167657-10	TB-211209	WATER	PHILADELPHIA, PA	12/09/21 00:00	12/09/21

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167657
Project Number:	200.00135.005.03	**Report Date:**	12/28/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167657
Project Number:	200.00135.005.03	**Report Date:**	12/28/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2167657-02: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (134%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2167657-03: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (163%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2167657-05: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (146%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2167657-06: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (135%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2167657-07: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (136%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Semivolatile Organics

L2167657-05D: The sample has elevated detection limits due to the dilution required by the sample matrix.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Caitlin Walukevich

Title: Technical Director/Representative Date: 12/28/21

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-01
Client ID: PB-191-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 09:20
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 10:37
Analyst: MV
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0029	0.00029	1
Benzene	ND		mg/kg	0.00073	0.00024	1
1,2-Dichloroethane	ND		mg/kg	0.0014	0.00037	1
Toluene	ND		mg/kg	0.0014	0.00079	1
1,2-Dibromoethane	ND		mg/kg	0.00073	0.00043	1
Ethylbenzene	ND		mg/kg	0.0014	0.00020	1
p/m-Xylene	ND		mg/kg	0.0029	0.00081	1
o-Xylene	ND		mg/kg	0.0014	0.00042	1
Xylenes, Total	ND		mg/kg	0.0014	0.00042	1
Isopropylbenzene	ND		mg/kg	0.0014	0.00016	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0029	0.00028	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0029	0.00049	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-02
Client ID: PB-191-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 09:40
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 11:28
Analyst: MV
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0049	0.00049	1
Benzene	0.0094		mg/kg	0.0012	0.00040	1
1,2-Dichloroethane	ND		mg/kg	0.0024	0.00063	1
Toluene	0.0015	J	mg/kg	0.0024	0.0013	1
1,2-Dibromoethane	ND		mg/kg	0.0012	0.00072	1
Ethylbenzene	0.0012	J	mg/kg	0.0024	0.00034	1
p/m-Xylene	0.0028	J	mg/kg	0.0049	0.0014	1
o-Xylene	0.0019	J	mg/kg	0.0024	0.00071	1
Xylenes, Total	0.0047	J	mg/kg	0.0024	0.00071	1
Isopropylbenzene	0.0022	J	mg/kg	0.0024	0.00027	1
1,3,5-Trimethylbenzene	0.00054	J	mg/kg	0.0049	0.00047	1
1,2,4-Trimethylbenzene	0.0013	J	mg/kg	0.0049	0.00082	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	125		70-130
4-Bromofluorobenzene	**134**	Q	70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-03
Client ID: PB-191-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 09:55
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 19:07
Analyst: JC
Percent Solids: 74%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0026	0.00026	1
Benzene	0.0012		mg/kg	0.00065	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00033	1
Toluene	ND		mg/kg	0.0013	0.00070	1
1,2-Dibromoethane	ND		mg/kg	0.00065	0.00038	1
Ethylbenzene	0.0010	J	mg/kg	0.0013	0.00018	1
p/m-Xylene	0.0019	J	mg/kg	0.0026	0.00072	1
o-Xylene	0.0013		mg/kg	0.0013	0.00038	1
Xylenes, Total	0.0032	J	mg/kg	0.0013	0.00038	1
Isopropylbenzene	0.0015		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	0.0013	J	mg/kg	0.0026	0.00025	1
1,2,4-Trimethylbenzene	0.0023	J	mg/kg	0.0026	0.00043	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	**163**	Q	70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-04
Client ID: PB-191-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 10:20
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/19/21 19:28
Analyst: JC
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00063	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00065	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	0.00027	J	mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	91		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-05
Client ID: PB-191-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 10:30
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 11:52
Analyst: MV
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00057	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00057	0.00034	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00064	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	0.0036		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	0.00046	J	mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	**146**	Q	70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-06
Client ID: PB-191-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 10:45
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 01:22
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0043	0.00043	1
Benzene	ND		mg/kg	0.0011	0.00036	1
1,2-Dichloroethane	ND		mg/kg	0.0022	0.00055	1
Toluene	ND		mg/kg	0.0022	0.0012	1
1,2-Dibromoethane	ND		mg/kg	0.0011	0.00063	1
Ethylbenzene	ND		mg/kg	0.0022	0.00030	1
p/m-Xylene	ND		mg/kg	0.0043	0.0012	1
o-Xylene	ND		mg/kg	0.0022	0.00063	1
Xylenes, Total	ND		mg/kg	0.0022	0.00063	1
Isopropylbenzene	ND		mg/kg	0.0022	0.00023	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0043	0.00042	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0043	0.00072	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	**135**	Q	70-130
Dibromofluoromethane	89		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-07
Client ID: PB-191-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 10:55
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 01:42
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	0.00030	J	mg/kg	0.00057	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00057	0.00033	1
Ethylbenzene	0.00021	J	mg/kg	0.0011	0.00016	1
p/m-Xylene	0.0023		mg/kg	0.0023	0.00064	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	0.0023		mg/kg	0.0011	0.00033	1
Isopropylbenzene	0.0030		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.00066	J	mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	0.0031		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	**136**	Q	70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-08
Client ID: DUP-25
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 00:00
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/21 11:02
Analyst: MV
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0028	0.00028	1
Benzene	ND		mg/kg	0.00071	0.00023	1
1,2-Dichloroethane	ND		mg/kg	0.0014	0.00036	1
Toluene	ND		mg/kg	0.0014	0.00077	1
1,2-Dibromoethane	ND		mg/kg	0.00071	0.00041	1
Ethylbenzene	ND		mg/kg	0.0014	0.00020	1
p/m-Xylene	ND		mg/kg	0.0028	0.00079	1
o-Xylene	ND		mg/kg	0.0014	0.00041	1
Xylenes, Total	ND		mg/kg	0.0014	0.00041	1
Isopropylbenzene	0.0082		mg/kg	0.0014	0.00015	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0028	0.00027	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0028	0.00047	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-09
Client ID: FB-211209
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 11:00
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/20/21 16:49
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/20/21 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-09
Client ID: FB-211209
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 11:00
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/19/21 10:01
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-10
Client ID: TB-211209
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 00:00
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 12/20/21 16:58
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/20/21 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-10
Client ID: TB-211209
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 00:00
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/23/21 09:02
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	114		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 12/20/21 14:42
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 12/20/21 12:30

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 09-10 Batch: WG1585549-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/19/21 08:42
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 09 Batch: WG1585679-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/20/21 09:21
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02,05,08 Batch: WG1586011-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2167657

Project Number: 200.00135.005.03 **Report Date:** 12/28/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/19/21 15:42
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03-04,06-07 Batch: WG1586116-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	86		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2167657

Project Number: 200.00135.005.03 **Report Date:** 12/28/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/23/21 08:15
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 10 Batch: WG1587235-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	112		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167657

Report Date: 12/28/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 09-10 Batch: WG1585549-2								
1,2-Dibromoethane	98		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167657

Report Date: 12/28/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 09 Batch: WG1585679-3 WG1585679-4								
Methyl tert butyl ether	83		89		63-130	7		20
Benzene	96		100		70-130	4		20
1,2-Dichloroethane	88		88		70-130	0		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		110		70-130	10		20
p/m-Xylene	105		110		70-130	5		20
o-Xylene	100		105		70-130	5		20
Isopropylbenzene	99		110		70-130	11		20
1,3,5-Trimethylbenzene	98		100		64-130	2		20
1,2,4-Trimethylbenzene	96		100		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		95		70-130
Toluene-d8	103		102		70-130
4-Bromofluorobenzene	97		100		70-130
Dibromofluoromethane	95		94		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167657

Report Date: 12/28/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02,05,08 Batch: WG1586011-3 WG1586011-4								
Methyl tert butyl ether	106		106		66-130	0		30
Benzene	110		108		70-130	2		30
1,2-Dichloroethane	103		104		70-130	1		30
Toluene	108		108		70-130	0		30
1,2-Dibromoethane	99		104		70-130	5		30
Ethylbenzene	111		111		70-130	0		30
p/m-Xylene	119		119		70-130	0		30
o-Xylene	117		117		70-130	0		30
Isopropylbenzene	114		111		70-130	3		30
1,3,5-Trimethylbenzene	115		113		70-130	2		30
1,2,4-Trimethylbenzene	116		114		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		99		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	94		96		70-130
Dibromofluoromethane	102		103		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 03-04,06-07 Batch: WG1586116-3 WG1586116-4								
Methyl tert butyl ether	84		93		66-130	10		30
Benzene	100		88		70-130	13		30
1,2-Dichloroethane	78		75		70-130	4		30
Toluene	99		86		70-130	14		30
1,2-Dibromoethane	81		85		70-130	5		30
Ethylbenzene	98		84		70-130	15		30
p/m-Xylene	100		86		70-130	15		30
o-Xylene	97		86		70-130	12		30
Isopropylbenzene	102		85		70-130	18		30
1,3,5-Trimethylbenzene	97		83		70-130	16		30
1,2,4-Trimethylbenzene	95		82		70-130	15		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	80		83		70-130
Toluene-d8	99		98		70-130
4-Bromofluorobenzene	94		95		70-130
Dibromofluoromethane	85		83		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167657

Report Date: 12/28/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 10 Batch: WG1587235-3 WG1587235-4								
Methyl tert butyl ether	92		99		63-130	7		20
Benzene	100		110		70-130	10		20
1,2-Dichloroethane	110		120		70-130	9		20
Toluene	100		110		70-130	10		20
Ethylbenzene	100		110		70-130	10		20
p/m-Xylene	100		105		70-130	5		20
o-Xylene	100		105		70-130	5		20
Isopropylbenzene	100		110		70-130	10		20
1,3,5-Trimethylbenzene	97		100		64-130	3		20
1,2,4-Trimethylbenzene	96		99		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	112		114		70-130
Toluene-d8	105		104		70-130
4-Bromofluorobenzene	99		99		70-130
Dibromofluoromethane	103		105		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-01
Client ID: PB-191-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 09:20
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 21:05
Analyst: CMM
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 12/19/21 12:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.039	J	mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	0.11	J	mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	0.22		mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.17		mg/kg	0.12	0.022	1
Chrysene	0.16		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.19		mg/kg	0.12	0.033	1
Benzo(a)pyrene	0.15	J	mg/kg	0.16	0.048	1
Indeno(1,2,3-cd)pyrene	0.10	J	mg/kg	0.16	0.027	1
Benzo(ghi)perylene	0.088	J	mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	61		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-02
Client ID: PB-191-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 09:40
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 21:28
Analyst: CMM
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 12/19/21 11:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.063	J	mg/kg	0.21	0.025	1
Fluorene	ND		mg/kg	0.21	0.020	1
Phenanthrene	0.092	J	mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	0.10	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.077	J	mg/kg	0.12	0.023	1
Chrysene	0.080	J	mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	0.089	J	mg/kg	0.12	0.035	1
Benzo(a)pyrene	0.071	J	mg/kg	0.16	0.050	1
Indeno(1,2,3-cd)pyrene	0.055	J	mg/kg	0.16	0.029	1
Benzo(ghi)perylene	0.062	J	mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	54		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-03
Client ID: PB-191-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 09:55
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 21:52
Analyst: CMM
Percent Solids: 74%

Extraction Method: EPA 3546
Extraction Date: 12/19/21 11:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.10	J	mg/kg	0.22	0.027	1
Fluorene	0.054	J	mg/kg	0.22	0.022	1
Phenanthrene	0.19		mg/kg	0.13	0.027	1
Anthracene	0.049	J	mg/kg	0.13	0.043	1
Pyrene	0.14		mg/kg	0.13	0.022	1
Benzo(a)anthracene	0.095	J	mg/kg	0.13	0.025	1
Chrysene	0.095	J	mg/kg	0.13	0.023	1
Benzo(b)fluoranthene	0.099	J	mg/kg	0.13	0.038	1
Benzo(a)pyrene	0.076	J	mg/kg	0.18	0.054	1
Indeno(1,2,3-cd)pyrene	0.056	J	mg/kg	0.18	0.031	1
Benzo(ghi)perylene	0.056	J	mg/kg	0.18	0.026	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	57		30-120
4-Terphenyl-d14	48		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-04
Client ID: PB-191-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 10:20
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 04:18
Analyst: CMM
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 12/19/21 11:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.021	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.14	0.024	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	71		30-120
4-Terphenyl-d14	76		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-05 D
Client ID: PB-191-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 10:30
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/23/21 11:44
Analyst: CMM
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 12/19/21 12:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	1.0	0.12	5
Fluorene	ND		mg/kg	1.0	0.098	5
Phenanthrene	ND		mg/kg	0.60	0.12	5
Anthracene	ND		mg/kg	0.60	0.20	5
Pyrene	ND		mg/kg	0.60	0.10	5
Benzo(a)anthracene	ND		mg/kg	0.60	0.11	5
Chrysene	ND		mg/kg	0.60	0.10	5
Benzo(b)fluoranthene	ND		mg/kg	0.60	0.17	5
Benzo(a)pyrene	ND		mg/kg	0.80	0.24	5
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.80	0.14	5
Benzo(ghi)perylene	ND		mg/kg	0.80	0.12	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	54		23-120
2-Fluorobiphenyl	55		30-120
4-Terphenyl-d14	56		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-06
Client ID: PB-191-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 10:45
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 22:16
Analyst: CMM
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 12/19/21 12:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.23		mg/kg	0.20	0.024	1
Fluorene	0.061	J	mg/kg	0.20	0.019	1
Phenanthrene	0.77		mg/kg	0.12	0.024	1
Anthracene	0.16		mg/kg	0.12	0.039	1
Pyrene	0.44		mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.21		mg/kg	0.12	0.022	1
Chrysene	0.26		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	0.17		mg/kg	0.12	0.034	1
Benzo(a)pyrene	0.18		mg/kg	0.16	0.049	1
Indeno(1,2,3-cd)pyrene	0.11	J	mg/kg	0.16	0.028	1
Benzo(ghi)perylene	0.19		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	67		30-120
4-Terphenyl-d14	70		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-07
Client ID: PB-191-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 10:55
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 22:39
Analyst: CMM
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 12/19/21 11:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.059	J	mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	0.084	J	mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	0.070	J	mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.047	J	mg/kg	0.12	0.022	1
Chrysene	0.052	J	mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.054	J	mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Indeno(1,2,3-cd)pyrene	0.031	J	mg/kg	0.16	0.027	1
Benzo(ghi)perylene	0.043	J	mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	57		30-120
4-Terphenyl-d14	48		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-08
Client ID: DUP-25
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 00:00
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/21/21 23:02
Analyst: CMM
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 12/19/21 12:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	0.044	J	mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	0.021	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.16	0.028	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	62		30-120
4-Terphenyl-d14	68		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-09
Client ID: FB-211209
Sample Location: PHILADELPHIA, PA

Date Collected: 12/09/21 11:00
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/19/21 21:53
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 12/14/21 15:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	29		21-120
Phenol-d6	31		10-120
Nitrobenzene-d5	57		23-120
2-Fluorobiphenyl	52		15-120
2,4,6-Tribromophenol	38		10-120
4-Terphenyl-d14	67		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 12/19/21 18:23
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 12/14/21 15:04

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 09 Batch: WG1583217-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	29		21-120
Phenol-d6	35		10-120
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	63		15-120
2,4,6-Tribromophenol	34		10-120
4-Terphenyl-d14	73		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/20/21 23:53
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 12/19/21 11:09

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-08 Batch: WG1585193-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.13	0.023
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	86		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167657

Report Date: 12/28/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 09 Batch: WG1583217-2 WG1583217-3								
Naphthalene	53		68		40-140	25		40
Fluorene	64		73		40-140	13		40
Phenanthrene	65		68		40-140	5		40
Anthracene	65		68		40-140	5		40
Pyrene	71		75		26-127	5		40
Benzo(a)anthracene	74		78		40-140	5		40
Chrysene	69		68		40-140	1		40
Benzo(b)fluoranthene	71		81		40-140	13		40
Benzo(a)pyrene	73		76		40-140	4		40
Indeno(1,2,3-cd)pyrene	75		82		40-140	9		40
Benzo(ghi)perylene	74		79		40-140	7		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	40		49		21-120
Phenol-d6	38		46		10-120
Nitrobenzene-d5	61		72		23-120
2-Fluorobiphenyl	55		67		15-120
2,4,6-Tribromophenol	58		60		10-120
4-Terphenyl-d14	73		76		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167657

Report Date: 12/28/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 Batch: WG1585193-2 WG1585193-3								
Naphthalene	60		66		40-140	10		50
Fluorene	64		71		40-140	10		50
Phenanthrene	64		69		40-140	8		50
Anthracene	64		69		40-140	8		50
Pyrene	65		72		35-142	10		50
Benzo(a)anthracene	62		70		40-140	12		50
Chrysene	64		70		40-140	9		50
Benzo(b)fluoranthene	66		74		40-140	11		50
Benzo(a)pyrene	62		69		40-140	11		50
Indeno(1,2,3-cd)pyrene	65		75		40-140	14		50
Benzo(ghi)perylene	64		72		40-140	12		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	62		72		23-120
2-Fluorobiphenyl	61		69		30-120
4-Terphenyl-d14	68		76		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-01
Client ID: PB-191-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 09:20
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	110		mg/kg	2.34	0.126	1	12/21/21 07:10	12/23/21 18:20	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-02
Client ID: PB-191-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 09:40
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	46.8		mg/kg	2.36	0.126	1	12/21/21 07:10	12/23/21 18:25	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-03
Client ID: PB-191-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 09:55
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 74%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	295		mg/kg	2.62	0.140	1	12/21/21 07:10	12/23/21 18:38	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-04
Client ID: PB-191-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 10:20
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	12.8		mg/kg	10.5	0.565	5	12/21/21 07:10	12/27/21 14:02	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-05
Client ID: PB-191-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 10:30
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	26.5		mg/kg	2.38	0.128	1	12/21/21 07:10	12/23/21 18:47	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-06
Client ID: PB-191-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 10:45
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	176		mg/kg	4.59	0.246	2	12/21/21 07:10	12/27/21 10:13	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-07
Client ID: PB-191-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 10:55
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	84.5		mg/kg	2.30	0.123	1	12/21/21 07:10	12/23/21 18:56	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-08
Client ID: DUP-25
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 00:00
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	218		mg/kg	4.72	0.253	2	12/21/21 07:10	12/27/21 10:17	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2167657
Project Number: 200.00135.005.03
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-09
Client ID: FB-211209
Sample Location: PHILADELPHIA, PA
Date Collected: 12/09/21 11:00
Date Received: 12/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	12/19/21 05:13	12/22/21 01:07	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 09 Batch: WG1585121-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	12/19/21 05:13	12/22/21 01:02	1,6020B	SV

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-08 Batch: WG1585681-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	12/21/21 07:10	12/23/21 16:49	1,6010D	EW

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167657

Report Date: 12/28/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 09 Batch: WG1585121-2								
Lead, Total	100		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-08 Batch: WG1585681-2 SRM Lot Number: D113-540								
Lead, Total	84		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167657
Report Date: 12/28/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 09 QC Batch ID: WG1585121-3 WG1585121-4 QC Sample: L2169319-04 Client ID: MS Sample												
Lead, Total	ND	530	516.2	97		495.5	93		75-125	4		20
Total Metals - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG1585681-3 QC Sample: L2165811-11 Client ID: MS Sample												
Lead, Total	62.2	51.6	77.5	**30**	Q	-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167657

Report Date: 12/28/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG1585681-4 QC Sample: L2165811-11 Client ID: DUP Sample						
Lead, Total	62.2	41.2	mg/kg	**41**	Q	20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Serial Dilution Analysis
Batch Quality Control

Lab Number: L2167657
Report Date: 12/28/21

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG1585681-6 QC Sample: L2165811-11 Client ID: DUP Sample						
Lead, Total	62.2	82.9	mg/kg	**33**	Q	20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-01
Client ID: PB-191-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/09/21 09:20
Date Received: 12/09/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	12/10/21 13:04	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-02
Client ID: PB-191-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/09/21 09:40
Date Received: 12/09/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.6		%	0.100	NA	1	-	12/10/21 13:04	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-03
Client ID: PB-191-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/09/21 09:55
Date Received: 12/09/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	73.9		%	0.100	NA	1	-	12/10/21 13:04	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-04
Client ID: PB-191-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/09/21 10:20
Date Received: 12/09/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.1		%	0.100	NA	1	-	12/10/21 13:04	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-05
Client ID: PB-191-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/09/21 10:30
Date Received: 12/09/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.5		%	0.100	NA	1	-	12/10/21 13:04	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-06
Client ID: PB-191-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 12/09/21 10:45
Date Received: 12/09/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.7		%	0.100	NA	1	-	12/10/21 13:04	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-07
Client ID: PB-191-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/09/21 10:55
Date Received: 12/09/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.8		%	0.100	NA	1	-	12/10/21 13:04	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03
Lab Number: L2167657
Report Date: 12/28/21

SAMPLE RESULTS

Lab ID: L2167657-08
Client ID: DUP-25
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 12/09/21 00:00
Date Received: 12/09/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.6		%	0.100	NA	1	-	12/10/21 13:04	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.005.03

Lab Number: L2167657

Report Date: 12/28/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-08 QC Batch ID: WG1581718-1 QC Sample: L2167657-01 Client ID: PB-191-01-SS01						
Solids, Total	84.0	83.9	%	0		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167657
Report Date: 12/28/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167657-01A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2167657-01B	Vial water preserved	B	NA		3.7	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-01C	Vial water preserved	B	NA		3.7	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-01D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2167657-01E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2167657-01F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2167657-02A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2167657-02B	Vial water preserved	B	NA		3.7	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-02C	Vial water preserved	B	NA		3.7	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-02D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2167657-02E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2167657-02F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2167657-03A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2167657-03B	Vial water preserved	B	NA		3.7	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-03C	Vial water preserved	B	NA		3.7	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-03D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2167657-03E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2167657-03F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2167657-04A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2167657-04B	Vial water preserved	B	NA		3.7	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-04C	Vial water preserved	B	NA		3.7	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-04D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167657
Report Date: 12/28/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167657-04E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2167657-04F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2167657-05A	Vial MeOH preserved	A	NA		3.4	Y	Absent		PA-8260HLW(14)
L2167657-05B	Vial water preserved	A	NA		3.4	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-05C	Vial water preserved	A	NA		3.4	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-05D	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		TS(7)
L2167657-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.4	Y	Absent		PB-TI(180)
L2167657-05F	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		PA-PAH(14)
L2167657-06A	Vial MeOH preserved	A	NA		3.4	Y	Absent		PA-8260HLW(14)
L2167657-06B	Vial water preserved	A	NA		3.4	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-06C	Vial water preserved	A	NA		3.4	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-06D	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		TS(7)
L2167657-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.4	Y	Absent		PB-TI(180)
L2167657-06F	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		PA-PAH(14)
L2167657-07A	Vial MeOH preserved	A	NA		3.4	Y	Absent		PA-8260HLW(14)
L2167657-07B	Vial water preserved	A	NA		3.4	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-07C	Vial water preserved	A	NA		3.4	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-07D	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		TS(7)
L2167657-07E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.4	Y	Absent		PB-TI(180)
L2167657-07F	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		PA-PAH(14)
L2167657-08A	Vial MeOH preserved	A	NA		3.4	Y	Absent		PA-8260HLW(14)
L2167657-08B	Vial water preserved	A	NA		3.4	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-08C	Vial water preserved	A	NA		3.4	Y	Absent	10-DEC-21 14:06	PA-8260HLW(14)
L2167657-08D	Plastic 2oz unpreserved for TS	A	NA		3.4	Y	Absent		TS(7)
L2167657-08E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.4	Y	Absent		PB-TI(180)
L2167657-08F	Glass 120ml/4oz unpreserved	A	NA		3.4	Y	Absent		PA-PAH(14)
L2167657-09A	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2167657-09B	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.005.03

Lab Number: L2167657
Report Date: 12/28/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2167657-09C	Vial HCl preserved	A	NA		3.4	Y	Absent		8011(14)
L2167657-09D	Plastic 250ml HNO3 preserved	A	<2	<2	3.4	Y	Absent		PB-6020T-PPB(180)
L2167657-09E	Amber 250ml unpreserved	A	7	7	3.4	Y	Absent		PA-8270SIM-LVI(7)
L2167657-09F	Amber 250ml unpreserved	A	7	7	3.4	Y	Absent		PA-8270SIM-LVI(7)
L2167657-10A	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2167657-10B	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2167657-10C	Vial Na2S2O3 preserved	A	NA		3.4	Y	Absent		8011(14)
L2167657-10D	Vial Na2S2O3 preserved	A	NA		3.4	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167657
Project Number:	200.00135.005.03	**Report Date:**	12/28/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167657
Project Number:	200.00135.005.03	**Report Date:**	12/28/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167657
Project Number:	200.00135.005.03	**Report Date:**	12/28/21

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2167657
Project Number:	200.00135.005.03	**Report Date:**	12/28/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 12/10/21

ALPHA Job #: L2167657

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193

Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.005.03

Project Manager: William Schmidt

ALPHA Quote #: 13161

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client Info PO #: 3894

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist (see attached for compounds)
Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PADEP Shortlist 1-5 (see attached)	PADEP Shortlist 1 & 2 (see attached)	PADEP Shortlist 4 (see attached)	PADEP Shortlist 3-5 (see attached)	PADEP Shortlist 5 (see attached)	PADEP Shortlist 6 (see attached)	pH	Benzene	Cumene	Tetraethylene Glycol	VOC portion of PADEP Shortlist (1-5)		Sample Specific Comments	TOTAL # BOTTLES
67657-01	PB-191-01-5501	12/9	0920	S	JS	☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐		6
02	PB-191-02-5501		0940	S		☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐		
03	PB-191-04-5501		0955	S		☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐		
04	PB-191-05-5501		1020	S		☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐		
05	PB-191-06-5501		1030	S		☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐		
06	PB-191-07-5501		1045	S		☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐		
07	PB-191-08-5501		1055	S		☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐		
08	DUP-25		-	S		☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐		
09	FB-211204		1100	W		☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐		7
10	TB-211204	↓	-		↓	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐		4
	Container Type					G	G	G	-	-	-	-	-	-	-	-	-		
	Preservative					F	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	12/9 1130		12/9/21 11:30
	12/9/21 1810		12/9/21 1810
	12/9 2030	I hereby AAL	12/9/21 2210
	12/10/21	I hereby AAL 12/10/21 0230	
I hereby AAL 12/10/21 0715			12/10/21 04:15

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-07(HW) (rev. 8-MAR-12)

PADEP Short List Analytical List:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6. and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

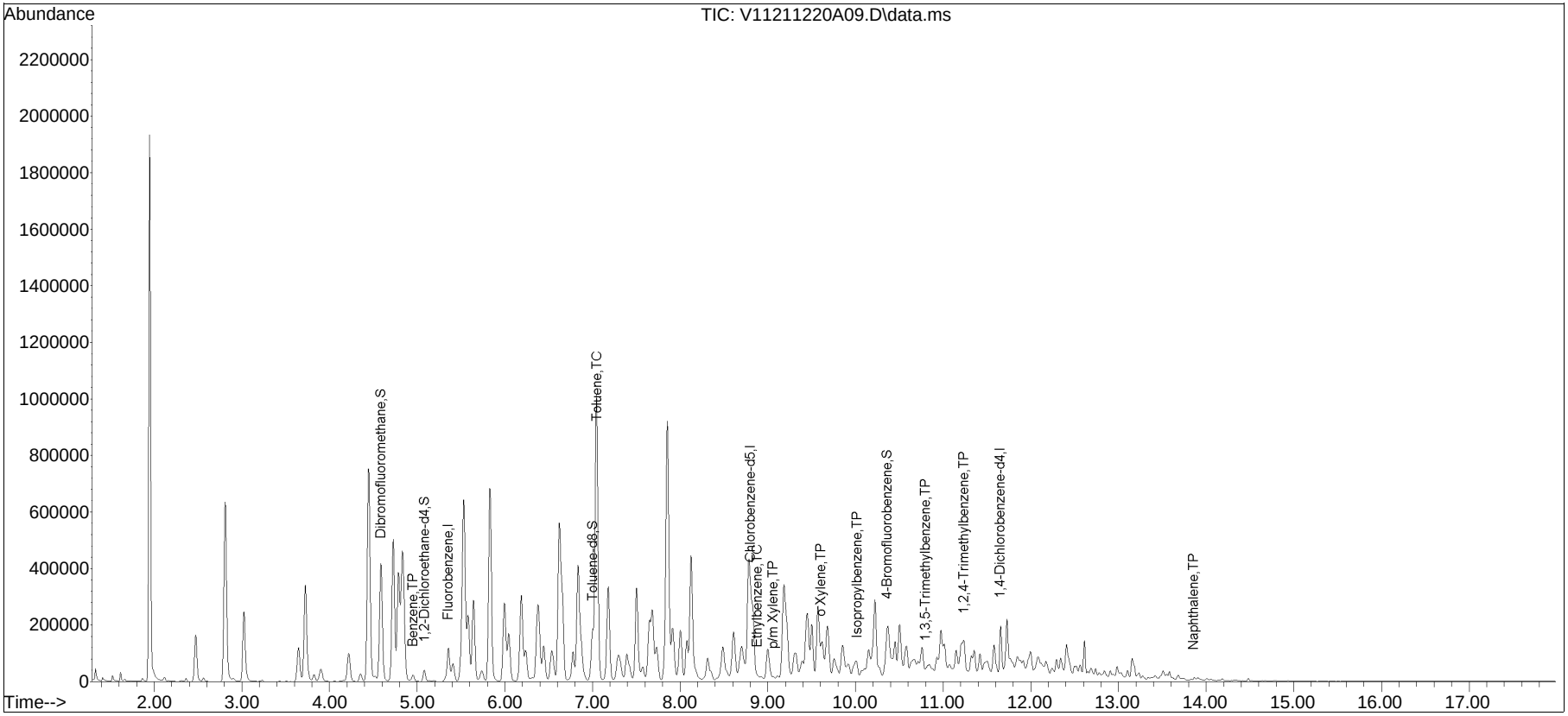
6. Waste Oil – benzene, toluene, ethyl benzene, cumene, naphthalene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, lead

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\211220A\
Data File : V11211220A09.D
Acq On : 20 Dec 2021 11:28 am
Operator : VOA111:MV
Sample : L2167657-02,31,2.54,5,,C
Misc : WG1586011,ICAL18566
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 21 08:39:50 2021
Quant Method : I:\VOLATILES\VOA111\2021\211220A\V111_211214A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Dec 14 12:27:59 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list20A\V11211220A01.D•

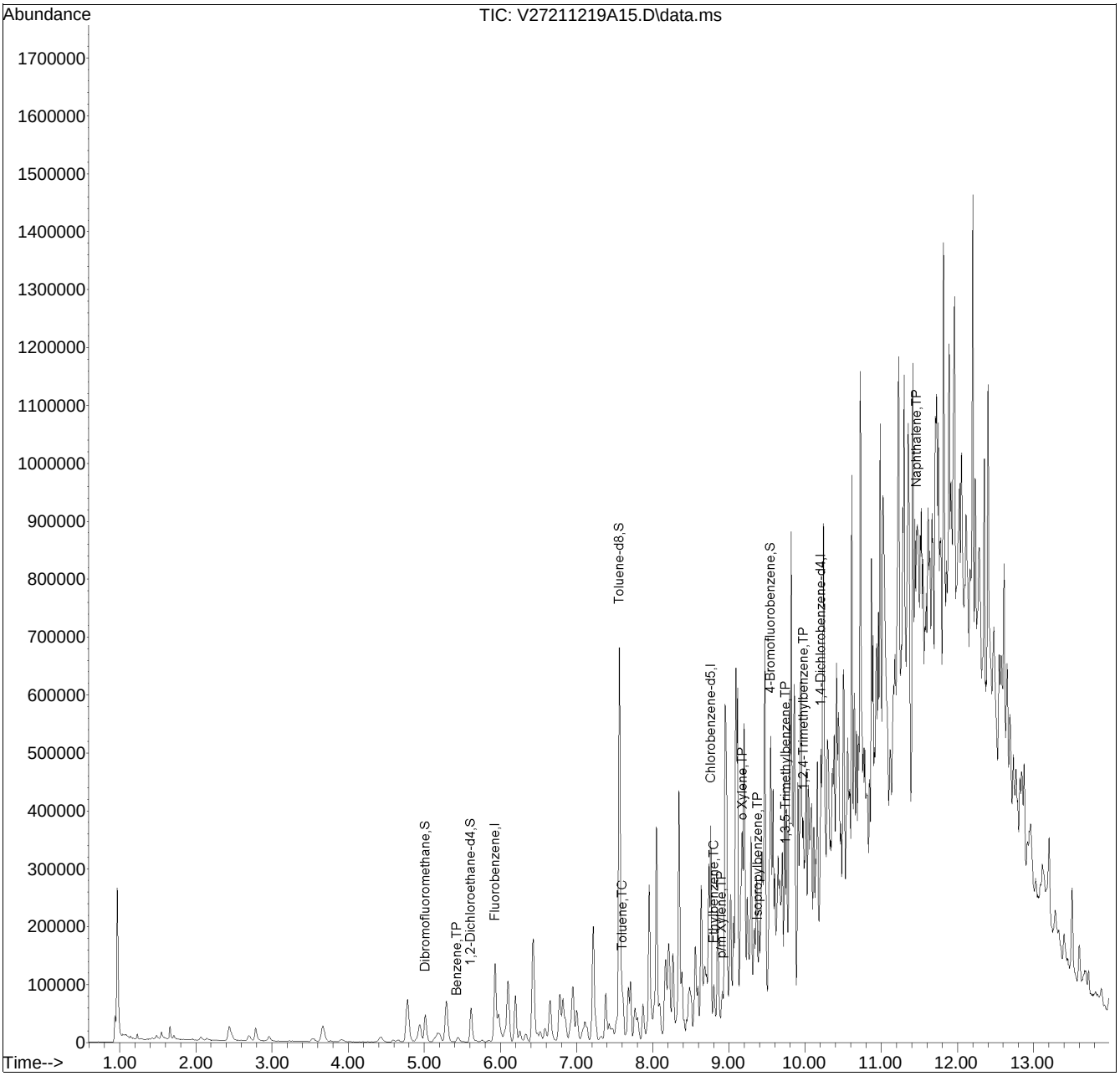


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA127\2021\211219A\
Data File : V27211219A15.D
Acq On : 19 Dec 2021 07:07 pm
Operator : VOA127:JC
Sample : L2167657-03,31,5.23,5,,B
Misc : WG1586116,ICAL18439
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Dec 20 08:26:11 2021
Quant Method : I:\VOLATILES\VOA127\2021\211219A\V127_211103N_8260D.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Nov 04 16:46:12 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list19A\V27211219A01.D•

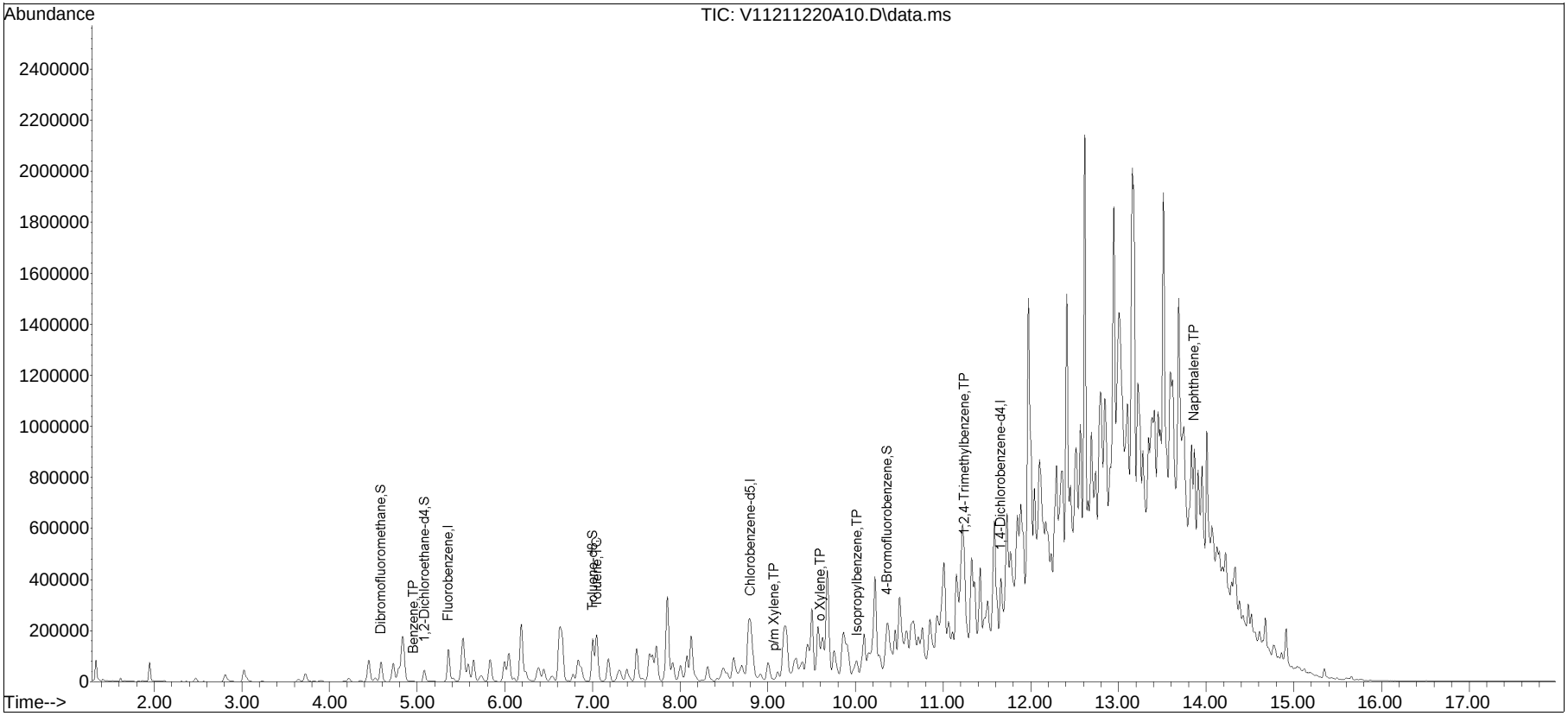


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2021\211220A\
Data File : V11211220A10.D
Acq On : 20 Dec 2021 11:52 am
Operator : VOA111:MV
Sample : L2167657-05,31,5.29,5,,C
Misc : WG1586011,ICAL18566
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Dec 21 08:40:08 2021
Quant Method : I:\VOLATILES\VOA111\2021\211220A\V111_211214A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Dec 14 12:27:59 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list20A\V11211220A01.D•

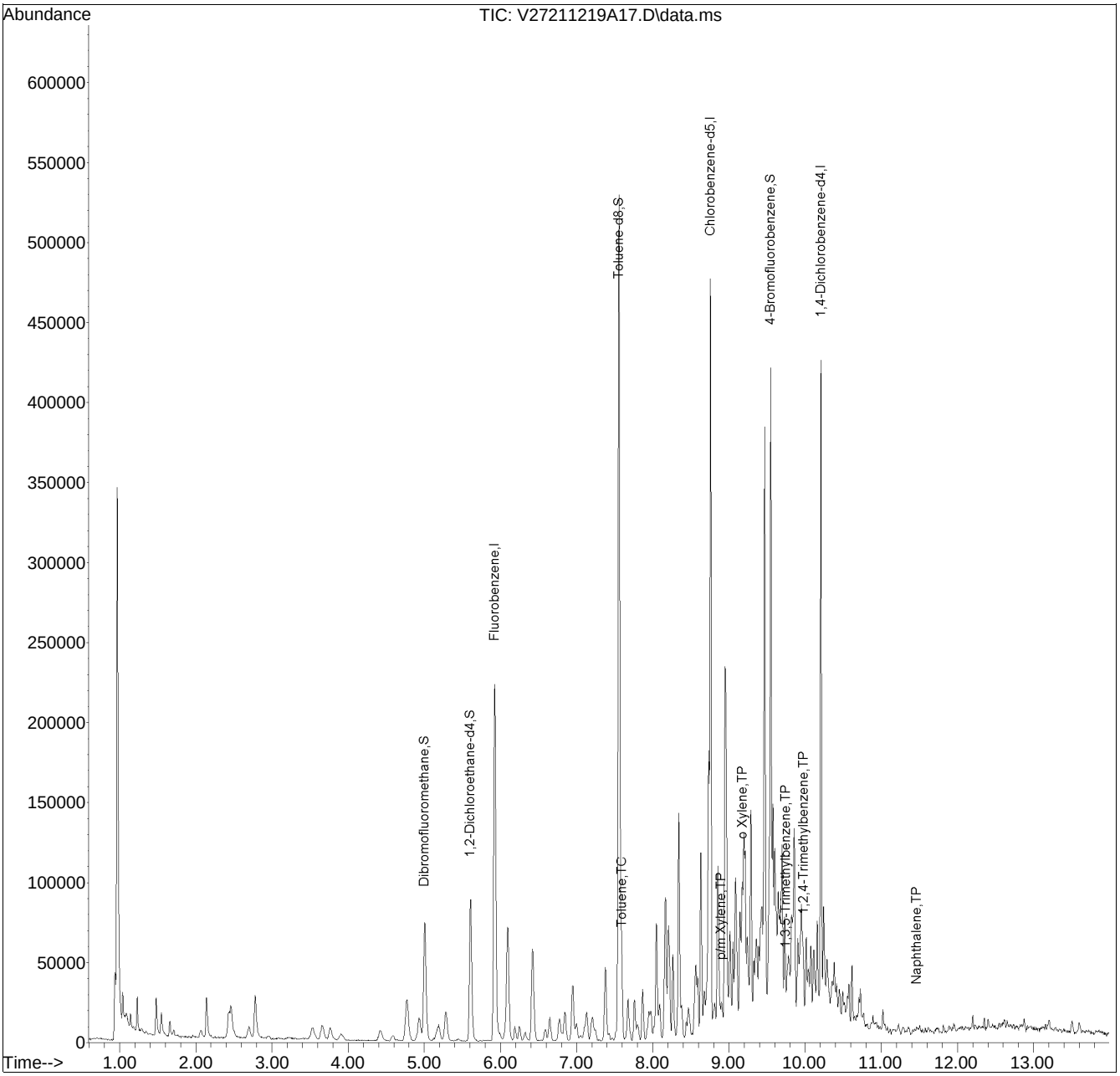


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA127\2021\211219A\
Data File : V27211219A17.D
Acq On : 20 Dec 2021 01:22 am
Operator : VOA127:JC
Sample : L2167657-06,31,2.84,5,,B
Misc : WG1586116,ICAL18439
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Dec 20 08:26:26 2021
Quant Method : I:\VOLATILES\VOA127\2021\211219A\V127_211103N_8260D.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Nov 04 16:46:12 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list19A\V27211219A01.D•

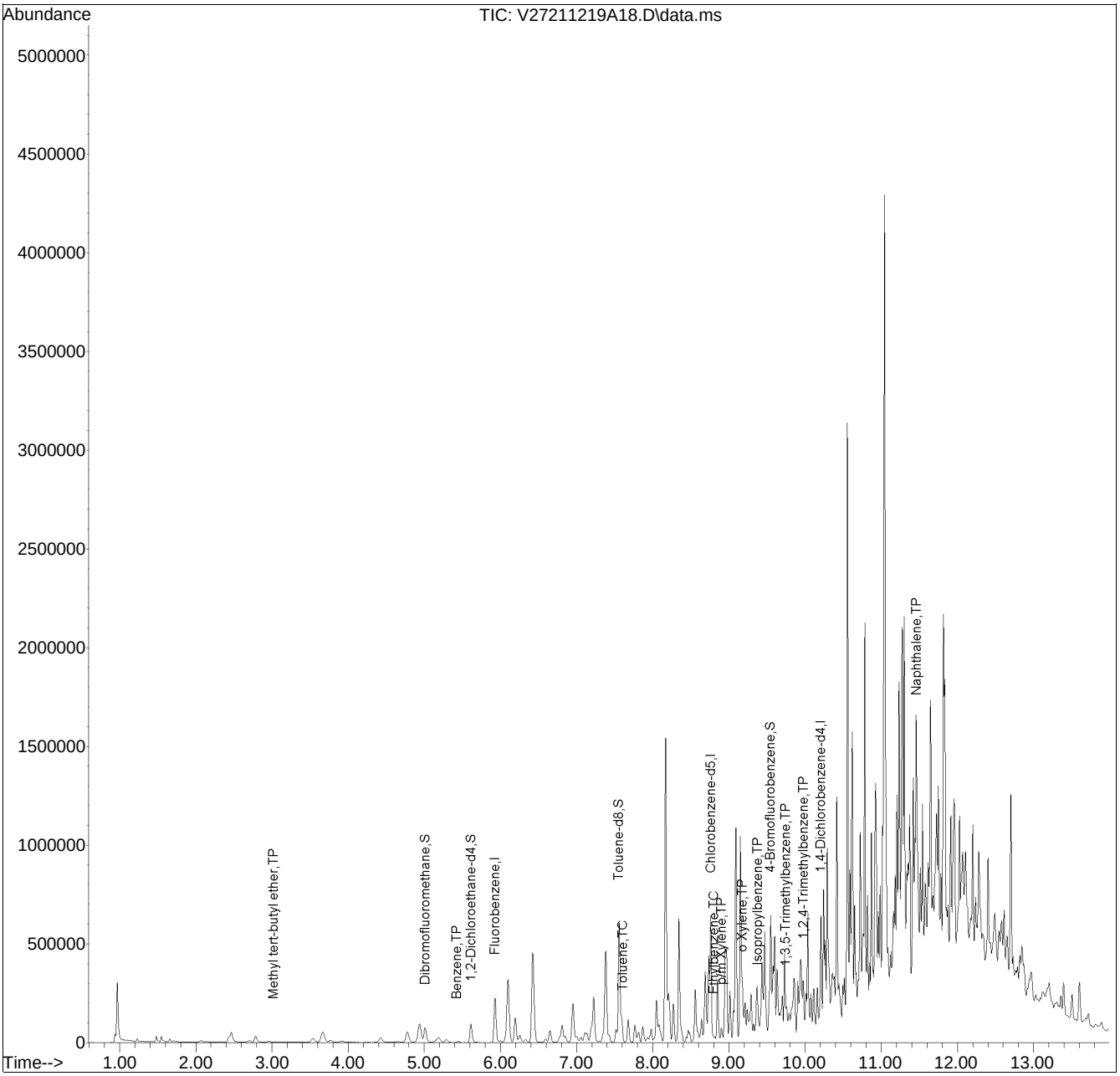


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA127\2021\211219A\
Data File : V27211219A18.D
Acq On : 20 Dec 2021 01:42 am
Operator : VOA127:JC
Sample : L2167657-07,31,5.26,5,,B
Misc : WG1586116,ICAL18439
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Dec 20 08:26:43 2021
Quant Method : I:\VOLATILES\VOA127\2021\211219A\V127_211103N_8260D.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Nov 04 16:46:12 2021
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list19A\V27211219A01.D•



ANALYTICAL REPORT

Lab Number:	L2236582
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/15/22

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Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236582
Report Date: 07/15/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2236582-01	PB-847-01-SS01	SOIL	PHILADELPHIA, PA	07/08/22 09:00	07/08/22
L2236582-02	PB-847-02-SS01	SOIL	PHILADELPHIA, PA	07/08/22 09:10	07/08/22
L2236582-03	PB-847-03-SS01	SOIL	PHILADELPHIA, PA	07/08/22 09:20	07/08/22
L2236582-04	PB-847-04-SS01	SOIL	PHILADELPHIA, PA	07/08/22 09:30	07/08/22
L2236582-05	PB-847-05-SS01	SOIL	PHILADELPHIA, PA	07/08/22 09:40	07/08/22
L2236582-06	PB-847-06-SS01	SOIL	PHILADELPHIA, PA	07/08/22 09:50	07/08/22
L2236582-07	PB-847-07-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:00	07/08/22
L2236582-08	PB-847-08-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:10	07/08/22
L2236582-09	PB-847-09-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:20	07/08/22
L2236582-10	PB-847-10-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:30	07/08/22
L2236582-11	PB-847-11-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:40	07/08/22
L2236582-12	PB-847-12-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:50	07/08/22
L2236582-13	PB-847-13-SS01	SOIL	PHILADELPHIA, PA	07/08/22 11:00	07/08/22
L2236582-14	PB-847-14-SS01	SOIL	PHILADELPHIA, PA	07/08/22 11:10	07/08/22
L2236582-15	PB-847-15-SS01	SOIL	PHILADELPHIA, PA	07/08/22 11:20	07/08/22
L2236582-16	PB-847-16-SS01	SOIL	PHILADELPHIA, PA	07/08/22 11:30	07/08/22
L2236582-17	PB-847-17-SS01	SOIL	PHILADELPHIA, PA	07/08/22 11:40	07/08/22
L2236582-18	FB-070822-1	WATER	PHILADELPHIA, PA	07/08/22 13:00	07/08/22
L2236582-19	FB-070822-2	WATER	PHILADELPHIA, PA	07/08/22 13:05	07/08/22
L2236582-20	DUP-37	SOIL	PHILADELPHIA, PA	07/08/22 00:00	07/08/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236582
Project Number:	200.00135.006	**Report Date:**	07/15/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236582
Project Number:	200.00135.006	**Report Date:**	07/15/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2236582-12: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (268%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236582-13D, -14D, and -15D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

L2236582-13D: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (171%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236582-14D: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (150%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236582-15D: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (159%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236582-17: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (202%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Semivolatile Organics

L2236582-15D: The sample has elevated detection limits due to the dilution required by the sample matrix.

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Case Narrative (continued)

Total Metals

L2236582-07, -10, -11, -12, -14, -15, and -17: The sample has an elevated detection limit for lead due to the dilution required by matrix interferences encountered during analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 07/15/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-01
Client ID: PB-847-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 13:18
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00085	0.00022	1
Toluene	ND		mg/kg	0.00085	0.00046	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	ND		mg/kg	0.00085	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00048	1
o-Xylene	ND		mg/kg	0.00085	0.00025	1
Xylenes, Total	ND		mg/kg	0.00085	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00085	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-02
Client ID: PB-847-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 13:48
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00019	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00093	0.00024	1
Toluene	ND		mg/kg	0.00093	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00093	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00052	1
o-Xylene	ND		mg/kg	0.00093	0.00027	1
Xylenes, Total	ND		mg/kg	0.00093	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00093	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-03
Client ID: PB-847-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 14:17
Analyst: JC
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00089	0.00023	1
Toluene	ND		mg/kg	0.00089	0.00048	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00089	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00089	0.00026	1
Xylenes, Total	ND		mg/kg	0.00089	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00089	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-04
Client ID: PB-847-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 14:47
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00044	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00088	0.00022	1
Toluene	ND		mg/kg	0.00088	0.00048	1
1,2-Dibromoethane	ND		mg/kg	0.00044	0.00026	1
Ethylbenzene	ND		mg/kg	0.00088	0.00012	1
p/m-Xylene	ND		mg/kg	0.0018	0.00049	1
o-Xylene	ND		mg/kg	0.00088	0.00026	1
Xylenes, Total	ND		mg/kg	0.00088	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00088	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-05
Client ID: PB-847-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 15:17
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00087	0.00022	1
Toluene	ND		mg/kg	0.00087	0.00047	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	ND		mg/kg	0.00087	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00048	1
o-Xylene	ND		mg/kg	0.00087	0.00025	1
Xylenes, Total	ND		mg/kg	0.00087	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00087	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-06
Client ID: PB-847-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 15:46
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00086	0.00022	1
Toluene	ND		mg/kg	0.00086	0.00046	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	ND		mg/kg	0.00086	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00048	1
o-Xylene	ND		mg/kg	0.00086	0.00025	1
Xylenes, Total	ND		mg/kg	0.00086	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00086	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-07
Client ID: PB-847-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 16:15
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	0.00029	J	mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0021	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-08
Client ID: PB-847-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 16:45
Analyst: JC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	ND		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00090	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00090	0.00026	1
Xylenes, Total	ND		mg/kg	0.00090	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-09
Client ID: PB-847-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 17:14
Analyst: JC
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	0.00024	J	mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00063	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00065	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-10
Client ID: PB-847-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 17:43
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00098	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00029	1
Xylenes, Total	ND		mg/kg	0.00098	0.00029	1
Isopropylbenzene	ND		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-11
Client ID: PB-847-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 18:11
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0035		mg/kg	0.0020	0.00020	1
Benzene	0.00047	J	mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00098	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00028	1
Xylenes, Total	ND		mg/kg	0.00098	0.00028	1
Isopropylbenzene	0.00012	J	mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-12
Client ID: PB-847-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 00:46
Analyst: MKS
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00087	0.00022	1
Toluene	ND		mg/kg	0.00087	0.00047	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	0.0028		mg/kg	0.00087	0.00012	1
p/m-Xylene	0.00065	J	mg/kg	0.0017	0.00048	1
o-Xylene	0.00025	J	mg/kg	0.00087	0.00025	1
Xylenes, Total	0.00090	J	mg/kg	0.00087	0.00025	1
Isopropylbenzene	0.013		mg/kg	0.00087	0.00009	1
1,3,5-Trimethylbenzene	0.054		mg/kg	0.0017	0.00017	1
1,2,4-Trimethylbenzene	0.020		mg/kg	0.0017	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	120		70-130
4-Bromofluorobenzene	**268**	Q	70-130
Dibromofluoromethane	91		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-13 D
Client ID: PB-847-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 01:06
Analyst: MKS
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.43	0.043	4
Benzene	0.051	J	mg/kg	0.11	0.036	4
1,2-Dichloroethane	ND		mg/kg	0.21	0.055	4
Toluene	ND		mg/kg	0.21	0.12	4
1,2-Dibromoethane	ND		mg/kg	0.11	0.063	4
Ethylbenzene	0.20	J	mg/kg	0.21	0.030	4
p/m-Xylene	0.15	J	mg/kg	0.43	0.12	4
o-Xylene	0.080	J	mg/kg	0.21	0.062	4
Xylenes, Total	0.23	J	mg/kg	0.21	0.062	4
Isopropylbenzene	0.94		mg/kg	0.21	0.023	4
1,3,5-Trimethylbenzene	1.4		mg/kg	0.43	0.041	4
1,2,4-Trimethylbenzene	2.2		mg/kg	0.43	0.072	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	**171**	Q	70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-14 D
Client ID: PB-847-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 19:37
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.50	0.051	4
Benzene	ND		mg/kg	0.12	0.042	4
1,2-Dichloroethane	ND		mg/kg	0.25	0.065	4
Toluene	ND		mg/kg	0.25	0.14	4
1,2-Dibromoethane	ND		mg/kg	0.12	0.074	4
Ethylbenzene	ND		mg/kg	0.25	0.036	4
p/m-Xylene	ND		mg/kg	0.50	0.14	4
o-Xylene	ND		mg/kg	0.25	0.073	4
Xylenes, Total	ND		mg/kg	0.25	0.073	4
Isopropylbenzene	1.3		mg/kg	0.25	0.027	4
1,3,5-Trimethylbenzene	ND		mg/kg	0.50	0.049	4
1,2,4-Trimethylbenzene	ND		mg/kg	0.50	0.084	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	130		70-130
4-Bromofluorobenzene	**150**	Q	70-130
Dibromofluoromethane	89		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-15 D
Client ID: PB-847-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 19:09
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.46	0.047	4
Benzene	0.063	J	mg/kg	0.12	0.038	4
1,2-Dichloroethane	ND		mg/kg	0.23	0.060	4
Toluene	ND		mg/kg	0.23	0.12	4
1,2-Dibromoethane	ND		mg/kg	0.12	0.068	4
Ethylbenzene	0.24		mg/kg	0.23	0.033	4
p/m-Xylene	0.18	J	mg/kg	0.46	0.13	4
o-Xylene	0.090	J	mg/kg	0.23	0.067	4
Xylenes, Total	0.27	J	mg/kg	0.23	0.067	4
Isopropylbenzene	1.2		mg/kg	0.23	0.025	4
1,3,5-Trimethylbenzene	1.8		mg/kg	0.46	0.045	4
1,2,4-Trimethylbenzene	2.8		mg/kg	0.46	0.077	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	**159**	Q	70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-16
Client ID: PB-847-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 20:34
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00047	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00094	0.00024	1
Toluene	ND		mg/kg	0.00094	0.00051	1
1,2-Dibromoethane	ND		mg/kg	0.00047	0.00028	1
Ethylbenzene	ND		mg/kg	0.00094	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00053	1
o-Xylene	ND		mg/kg	0.00094	0.00027	1
Xylenes, Total	ND		mg/kg	0.00094	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00094	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-17
Client ID: PB-847-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 21:03
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	0.0042		mg/kg	0.00053	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00027	1
Toluene	0.00073	J	mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	0.018		mg/kg	0.0011	0.00015	1
p/m-Xylene	0.015		mg/kg	0.0021	0.00059	1
o-Xylene	0.0017		mg/kg	0.0011	0.00031	1
Xylenes, Total	0.017		mg/kg	0.0011	0.00031	1
Isopropylbenzene	0.027		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.0088		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	0.11		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	125		70-130
4-Bromofluorobenzene	**202**	Q	70-130
Dibromofluoromethane	89		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-18
Client ID: FB-070822-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 16:12
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-18
Client ID: FB-070822-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/13/22 20:54
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	124		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	125		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-19
Client ID: FB-070822-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:05
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 16:19
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-19
Client ID: FB-070822-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:05
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/13/22 20:28
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	123		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	126		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-20
Client ID: DUP-37
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 21:31
Analyst: JC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00044	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00089	0.00023	1
Toluene	ND		mg/kg	0.00089	0.00048	1
1,2-Dibromoethane	ND		mg/kg	0.00044	0.00026	1
Ethylbenzene	ND		mg/kg	0.00089	0.00012	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00089	0.00026	1
Xylenes, Total	ND		mg/kg	0.00089	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00089	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/13/22 14:45
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 18-19 Batch: WG1662273-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/13/22 12:48
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-11,16-17,20 Batch: WG1662895-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/13/22 12:48
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 14-15 Batch: WG1662896-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/14/22 18:32
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 12 Batch: WG1663237-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/14/22 18:32
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 13 Batch: WG1663238-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/13/22 17:26
Analyst: TMS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 18-19 Batch: WG1663309-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	119		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236582

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 18-19 Batch: WG1662273-2								
1,2-Dibromoethane	110		-		80-120	-		20	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236582
Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-11,16-17,20 Batch: WG1662895-3 WG1662895-4								
Methyl tert butyl ether	120		122		66-130	2		30
Benzene	111		111		70-130	0		30
1,2-Dichloroethane	102		102		70-130	0		30
Toluene	112		113		70-130	1		30
1,2-Dibromoethane	111		114		70-130	3		30
Ethylbenzene	111		111		70-130	0		30
p/m-Xylene	111		112		70-130	1		30
o-Xylene	109		111		70-130	2		30
Isopropylbenzene	115		117		70-130	2		30
1,3,5-Trimethylbenzene	112		111		70-130	1		30
1,2,4-Trimethylbenzene	111		112		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		96		70-130
Toluene-d8	103		104		70-130
4-Bromofluorobenzene	107		108		70-130
Dibromofluoromethane	90		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236582
Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 14-15 Batch: WG1662896-3 WG1662896-4								
Methyl tert butyl ether	120		122		66-130	2		30
Benzene	111		111		70-130	0		30
1,2-Dichloroethane	102		102		70-130	0		30
Toluene	112		113		70-130	1		30
1,2-Dibromoethane	111		114		70-130	3		30
Ethylbenzene	111		111		70-130	0		30
p/m-Xylene	111		112		70-130	1		30
o-Xylene	109		111		70-130	2		30
Isopropylbenzene	115		117		70-130	2		30
1,3,5-Trimethylbenzene	112		111		70-130	1		30
1,2,4-Trimethylbenzene	111		112		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		96		70-130
Toluene-d8	103		104		70-130
4-Bromofluorobenzene	107		108		70-130
Dibromofluoromethane	90		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236582
Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 12 Batch: WG1663237-3 WG1663237-4								
Methyl tert butyl ether	104		101		66-130	3		30
Benzene	99		96		70-130	3		30
1,2-Dichloroethane	101		98		70-130	3		30
Toluene	90		87		70-130	3		30
1,2-Dibromoethane	97		96		70-130	1		30
Ethylbenzene	97		94		70-130	3		30
p/m-Xylene	96		94		70-130	2		30
o-Xylene	98		96		70-130	2		30
Isopropylbenzene	99		96		70-130	3		30
1,3,5-Trimethylbenzene	98		95		70-130	3		30
1,2,4-Trimethylbenzene	97		93		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	105		104		70-130
Toluene-d8	97		99		70-130
4-Bromofluorobenzene	99		97		70-130
Dibromofluoromethane	100		104		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236582

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 13 Batch: WG1663238-3 WG1663238-4								
Methyl tert butyl ether	104		101		66-130	3		30
Benzene	99		96		70-130	3		30
1,2-Dichloroethane	101		98		70-130	3		30
Toluene	90		87		70-130	3		30
1,2-Dibromoethane	97		96		70-130	1		30
Ethylbenzene	97		94		70-130	3		30
p/m-Xylene	96		94		70-130	2		30
o-Xylene	98		96		70-130	2		30
Isopropylbenzene	99		96		70-130	3		30
1,3,5-Trimethylbenzene	98		95		70-130	3		30
1,2,4-Trimethylbenzene	97		93		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	105		104		70-130
Toluene-d8	97		99		70-130
4-Bromofluorobenzene	99		97		70-130
Dibromofluoromethane	100		104		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236582

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 18-19 Batch: WG1663309-3 WG1663309-4								
Methyl tert butyl ether	95		97		63-130	2		20
Benzene	98		100		70-130	2		20
1,2-Dichloroethane	100		100		70-130	0		20
Toluene	95		96		70-130	1		20
Ethylbenzene	94		96		70-130	2		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
Isopropylbenzene	88		92		70-130	4		20
1,3,5-Trimethylbenzene	91		95		64-130	4		20
1,2,4-Trimethylbenzene	90		94		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		105		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	102		94		70-130
Dibromofluoromethane	102		104		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-01
Client ID: PB-847-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 13:00
Analyst: JG
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	116		23-120
2-Fluorobiphenyl	54		30-120
4-Terphenyl-d14	65		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-02
Client ID: PB-847-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 13:24
Analyst: JG
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**133**	Q	23-120
2-Fluorobiphenyl	64		30-120
4-Terphenyl-d14	70		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-03
Client ID: PB-847-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 13:47
Analyst: JG
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	114		23-120
2-Fluorobiphenyl	58		30-120
4-Terphenyl-d14	66		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-04
Client ID: PB-847-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 14:11
Analyst: JG
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.022	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**141**	Q	23-120
2-Fluorobiphenyl	65		30-120
4-Terphenyl-d14	73		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-05
Client ID: PB-847-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 14:58
Analyst: JG
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.022	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	104		23-120
2-Fluorobiphenyl	50		30-120
4-Terphenyl-d14	54		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-06
Client ID: PB-847-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 15:21
Analyst: JG
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	114		23-120
2-Fluorobiphenyl	57		30-120
4-Terphenyl-d14	69		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-07
Client ID: PB-847-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 15:45
Analyst: JG
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	115		23-120
2-Fluorobiphenyl	53		30-120
4-Terphenyl-d14	60		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-08
Client ID: PB-847-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 16:08
Analyst: JG
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	114		23-120
2-Fluorobiphenyl	53		30-120
4-Terphenyl-d14	57		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-09
Client ID: PB-847-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 16:32
Analyst: JG
Percent Solids: 77%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.21	0.026	1
Fluorene	ND		mg/kg	0.21	0.021	1
Phenanthrene	ND		mg/kg	0.13	0.026	1
Anthracene	ND		mg/kg	0.13	0.042	1
Pyrene	ND		mg/kg	0.13	0.021	1
Benzo(a)anthracene	ND		mg/kg	0.13	0.024	1
Chrysene	ND		mg/kg	0.13	0.022	1
Benzo(b)fluoranthene	ND		mg/kg	0.13	0.036	1
Benzo(a)pyrene	ND		mg/kg	0.17	0.052	1
Benzo(ghi)perylene	ND		mg/kg	0.17	0.025	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**134**	Q	23-120
2-Fluorobiphenyl	63		30-120
4-Terphenyl-d14	71		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-10
Client ID: PB-847-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 16:55
Analyst: JG
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	107		23-120
2-Fluorobiphenyl	54		30-120
4-Terphenyl-d14	56		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-11
Client ID: PB-847-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 17:19
Analyst: JG
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.037	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**163**	Q	23-120
2-Fluorobiphenyl	81		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-12
Client ID: PB-847-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 17:42
Analyst: JG
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	118		23-120
2-Fluorobiphenyl	58		30-120
4-Terphenyl-d14	64		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-13
Client ID: PB-847-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 18:06
Analyst: JG
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:48

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.13	J	mg/kg	0.19	0.023	1
Fluorene	0.12	J	mg/kg	0.19	0.019	1
Phenanthrene	0.29		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.037	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**130**	Q	23-120
2-Fluorobiphenyl	61		30-120
4-Terphenyl-d14	62		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-14
Client ID: PB-847-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 18:29
Analyst: JG
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:48

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.043	J	mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	97		23-120
2-Fluorobiphenyl	51		30-120
4-Terphenyl-d14	55		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-15 D
Client ID: PB-847-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 10:21
Analyst: JG
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:48

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	7.0		mg/kg	1.9	0.23	10
Fluorene	5.3		mg/kg	1.9	0.18	10
Phenanthrene	12.		mg/kg	1.1	0.23	10
Anthracene	1.7		mg/kg	1.1	0.36	10
Pyrene	0.50	J	mg/kg	1.1	0.19	10
Benzo(a)anthracene	ND		mg/kg	1.1	0.21	10
Chrysene	ND		mg/kg	1.1	0.20	10
Benzo(b)fluoranthene	ND		mg/kg	1.1	0.32	10
Benzo(a)pyrene	ND		mg/kg	1.5	0.46	10
Benzo(ghi)perylene	ND		mg/kg	1.5	0.22	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**166**	Q	23-120
2-Fluorobiphenyl	95		30-120
4-Terphenyl-d14	96		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-16
Client ID: PB-847-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 19:16
Analyst: JG
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:48

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	107		23-120
2-Fluorobiphenyl	53		30-120
4-Terphenyl-d14	58		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-17
Client ID: PB-847-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 19:40
Analyst: JG
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:48

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	98		23-120
2-Fluorobiphenyl	51		30-120
4-Terphenyl-d14	61		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-18
Client ID: FB-070822-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/10/22 16:03
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 07/10/22 07:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	38		23-120
2-Fluorobiphenyl	38		15-120
4-Terphenyl-d14	**40**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-19
Client ID: FB-070822-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:05
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/10/22 16:19
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 07/10/22 07:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	0.02	J	ug/l	0.10	0.01	1
Phenanthrene	0.04	J	ug/l	0.05	0.02	1
Anthracene	0.01	J	ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	37		23-120
2-Fluorobiphenyl	38		15-120
4-Terphenyl-d14	**40**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-20
Client ID: DUP-37
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 20:03
Analyst: JG
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:48

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**121**	Q	23-120
2-Fluorobiphenyl	61		30-120
4-Terphenyl-d14	66		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/10/22 15:47
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/10/22 07:44

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 18-19 Batch: WG1660895-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	35		23-120
2-Fluorobiphenyl	33		15-120
4-Terphenyl-d14	**32**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/11/22 11:50
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-17,20 Batch: WG1660990-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	109		23-120
2-Fluorobiphenyl	55		30-120
4-Terphenyl-d14	58		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236582

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 18-19 Batch: WG1660895-2 WG1660895-3								
Naphthalene	50		50		40-140	0		40
Fluorene	48		46		40-140	4		40
Phenanthrene	46		44		40-140	4		40
Anthracene	47		45		40-140	4		40
Pyrene	54		50		26-127	8		40
Benzo(a)anthracene	43		40		40-140	7		40
Chrysene	46		45		40-140	2		40
Benzo(b)fluoranthene	48		45		40-140	6		40
Benzo(a)pyrene	45		41		40-140	9		40
Benzo(ghi)perylene	50		47		40-140	6		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	27		26		23-120
2-Fluorobiphenyl	25		24		15-120
4-Terphenyl-d14	**27**	Q	**25**	Q	41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236582

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-17,20 Batch: WG1660990-2 WG1660990-3								
Naphthalene	57		63		40-140	10		50
Fluorene	64		68		40-140	6		50
Phenanthrene	60		65		40-140	8		50
Anthracene	62		67		40-140	8		50
Pyrene	60		65		35-142	8		50
Benzo(a)anthracene	67		71		40-140	6		50
Chrysene	64		70		40-140	9		50
Benzo(b)fluoranthene	66		76		40-140	14		50
Benzo(a)pyrene	74		75		40-140	1		50
Benzo(ghi)perylene	54		67		40-140	21		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	107		**126**	Q	23-120
2-Fluorobiphenyl	54		58		30-120
4-Terphenyl-d14	59		65		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-01
Client ID: PB-847-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 09:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.08		mg/kg	2.37	0.127	1	07/12/22 12:15	07/15/22 07:18	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-02
Client ID: PB-847-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 09:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.67		mg/kg	2.42	0.130	1	07/12/22 12:15	07/15/22 07:23	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-03
Client ID: PB-847-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 09:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.07		mg/kg	2.17	0.116	1	07/12/22 12:15	07/15/22 07:28	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-04
Client ID: PB-847-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 09:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.69		mg/kg	2.26	0.121	1	07/12/22 12:15	07/15/22 08:04	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-05
Client ID: PB-847-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 09:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.51		mg/kg	2.23	0.119	1	07/12/22 12:15	07/15/22 08:09	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-06
Client ID: PB-847-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 09:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.69		mg/kg	2.31	0.124	1	07/12/22 12:15	07/15/22 08:13	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-07
Client ID: PB-847-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.30		mg/kg	4.63	0.248	2	07/12/22 12:15	07/15/22 15:40	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-08
Client ID: PB-847-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.46		mg/kg	2.36	0.126	1	07/12/22 12:15	07/15/22 08:23	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-09
Client ID: PB-847-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.13		mg/kg	2.50	0.134	1	07/12/22 12:15	07/15/22 08:28	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-10
Client ID: PB-847-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.37		mg/kg	4.80	0.257	2	07/12/22 12:15	07/15/22 15:45	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-11
Client ID: PB-847-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.97		mg/kg	4.44	0.238	2	07/12/22 12:15	07/15/22 09:39	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-12
Client ID: PB-847-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.35		mg/kg	4.54	0.244	2	07/12/22 12:15	07/15/22 09:44	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-13
Client ID: PB-847-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.88		mg/kg	2.30	0.123	1	07/12/22 12:15	07/15/22 08:47	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-14
Client ID: PB-847-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.24		mg/kg	4.85	0.260	2	07/12/22 12:15	07/15/22 10:32	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-15
Client ID: PB-847-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.06		mg/kg	4.52	0.242	2	07/12/22 12:15	07/15/22 10:37	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-16
Client ID: PB-847-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.17		mg/kg	2.40	0.128	1	07/12/22 12:15	07/15/22 09:58	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-17
Client ID: PB-847-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.26		mg/kg	4.70	0.252	2	07/12/22 12:15	07/15/22 10:42	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-18
Client ID: FB-070822-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 13:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/11/22 09:35	07/12/22 09:51	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-19
Client ID: FB-070822-2
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 13:05
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/11/22 09:35	07/12/22 10:06	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236582
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-20
Client ID: DUP-37
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.52		mg/kg	2.34	0.125	1	07/12/22 12:15	07/15/22 10:08	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 18-19 Batch: WG1660944-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/11/22 09:35	07/12/22 09:42	1,6020B	SV

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-17,20 Batch: WG1661452-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/12/22 12:15	07/15/22 07:09	1,6010D	SB

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236582

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 18-19 Batch: WG1660944-2								
Lead, Total	100		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-17,20 Batch: WG1661452-2 SRM Lot Number: D113-540								
Lead, Total	80		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236582
Report Date: 07/15/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 18-19 QC Batch ID: WG1660944-3 QC Sample: L2236582-18 Client ID: FB-070822-1												
Lead, Total	ND	530	536.0	101		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-17,20 QC Batch ID: WG1661452-3 QC Sample: L2236658-01 Client ID: MS Sample												
Lead, Total	4.11	42.6	37.2	78		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236582

Report Date: 07/15/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 18-19 QC Batch ID: WG1660944-4 QC Sample: L2236582-18 Client ID: FB-070822-1						
Lead, Total	ND	ND	ug/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-17,20 QC Batch ID: WG1661452-4 QC Sample: L2236658-01 Client ID: DUP Sample						
Lead, Total	4.11	3.93J	mg/kg	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-01
Client ID: PB-847-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 09:00
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.4		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-02
Client ID: PB-847-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 09:10
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.4		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-03
Client ID: PB-847-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.5		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-04
Client ID: PB-847-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 09:30
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.4		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-05
Client ID: PB-847-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 09:40
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.0		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-06
Client ID: PB-847-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 09:50
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.3		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-07
Client ID: PB-847-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:00
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.0		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-08
Client ID: PB-847-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:10
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.9		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-09
Client ID: PB-847-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:20
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	77.1		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-10
Client ID: PB-847-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:30
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.1		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-11
Client ID: PB-847-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:40
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.8		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-12
Client ID: PB-847-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:50
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.0		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-13
Client ID: PB-847-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 11:00
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.8		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-14
Client ID: PB-847-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 11:10
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.9		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-15
Client ID: PB-847-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 11:20
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.1		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-16
Client ID: PB-847-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.1		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-17
Client ID: PB-847-17-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 11:40
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.3		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236582
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236582-20
Client ID: DUP-37
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.3		%	0.100	NA	1	-	07/11/22 22:15	121,2540G	MF

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236582

Report Date: 07/15/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-17,20 QC Batch ID: WG1661509-1 QC Sample: L2236582-01 Client ID: PB-847-01-SS01						
Solids, Total	81.4	81.7	%	0		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236582
Report Date: 07/15/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236582-01A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-01B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-01C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-01D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-01F	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)
L2236582-02A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-02B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-02C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-02D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-02F	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)
L2236582-03A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-03B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-03C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-03D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-03F	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)
L2236582-04A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2236582-04B	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-04C	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-04D	Plastic 2oz unpreserved for TS	B	NA		4.9	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236582-04E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		PB-TI(180)
L2236582-04F	Glass 120ml/4oz unpreserved	B	NA		4.9	Y	Absent		PA-PAH(14)
L2236582-05A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2236582-05B	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-05C	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-05D	Plastic 2oz unpreserved for TS	B	NA		4.9	Y	Absent		TS(7)
L2236582-05E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		PB-TI(180)
L2236582-05F	Glass 120ml/4oz unpreserved	B	NA		4.9	Y	Absent		PA-PAH(14)
L2236582-06A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2236582-06B	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-06C	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-06D	Plastic 2oz unpreserved for TS	B	NA		4.9	Y	Absent		TS(7)
L2236582-06E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		PB-TI(180)
L2236582-06F	Glass 120ml/4oz unpreserved	B	NA		4.9	Y	Absent		PA-PAH(14)
L2236582-07A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2236582-07B	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-07C	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-07D	Plastic 2oz unpreserved for TS	B	NA		4.9	Y	Absent		TS(7)
L2236582-07E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		PB-TI(180)
L2236582-07F	Glass 250ml/8oz unpreserved	B	NA		4.9	Y	Absent		PA-PAH(14)
L2236582-08A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2236582-08B	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-08C	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-08D	Plastic 2oz unpreserved for TS	B	NA		4.9	Y	Absent		TS(7)
L2236582-08E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		PB-TI(180)
L2236582-08F	Glass 250ml/8oz unpreserved	B	NA		4.9	Y	Absent		PA-PAH(14)
L2236582-09A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-09B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236582-09C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-09D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-09E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-09F	Glass 250ml/8oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)
L2236582-10A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2236582-10B	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-10C	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-10D	Plastic 2oz unpreserved for TS	B	NA		4.9	Y	Absent		TS(7)
L2236582-10E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		PB-TI(180)
L2236582-10F	Glass 250ml/8oz unpreserved	B	NA		4.9	Y	Absent		PA-PAH(14)
L2236582-11A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-11B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-11C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-11D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-11E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-11F	Glass 250ml/8oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)
L2236582-12A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-12B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-12C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-12D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-12E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-12F	Glass 250ml/8oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)
L2236582-13A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-13B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-13C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-13D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-13E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-13F	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236582
Report Date: 07/15/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236582-14A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2236582-14B	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-14C	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-14D	Plastic 2oz unpreserved for TS	B	NA		4.9	Y	Absent		TS(7)
L2236582-14E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		PB-TI(180)
L2236582-14F	Glass 120ml/4oz unpreserved	B	NA		4.9	Y	Absent		PA-PAH(14)
L2236582-15A	Vial MeOH preserved	B	NA		4.9	Y	Absent		PA-8260HLW(14)
L2236582-15B	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-15C	Vial water preserved	B	NA		4.9	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-15D	Plastic 2oz unpreserved for TS	B	NA		4.9	Y	Absent		TS(7)
L2236582-15E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.9	Y	Absent		PB-TI(180)
L2236582-15F	Glass 120ml/4oz unpreserved	B	NA		4.9	Y	Absent		PA-PAH(14)
L2236582-16A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-16B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-16C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-16D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-16E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-16F	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)
L2236582-17A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-17B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-17C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-17D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-17E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-17F	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)
L2236582-18A	Vial HCl preserved	A	NA		2.6	Y	Absent		8011(14),PA-8260(14)
L2236582-18B	Vial HCl preserved	A	NA		2.6	Y	Absent		8011(14),PA-8260(14)
L2236582-18C	Vial HCl preserved	A	NA		2.6	Y	Absent		8011(14),PA-8260(14)
L2236582-18D	Plastic 250ml HNO3 preserved	A	<2	<2	2.6	Y	Absent		PB-6020T-PPB(180)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236582
Report Date: 07/15/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236582-18E	Amber 250ml unpreserved	A	7	7	2.6	Y	Absent		PA-PAHSIM-LVI(7)
L2236582-18F	Amber 250ml unpreserved	A	7	7	2.6	Y	Absent		PA-PAHSIM-LVI(7)
L2236582-19A	Vial HCl preserved	A	NA		2.6	Y	Absent		8011(14),PA-8260(14)
L2236582-19B	Vial HCl preserved	A	NA		2.6	Y	Absent		8011(14),PA-8260(14)
L2236582-19C	Vial HCl preserved	A	NA		2.6	Y	Absent		8011(14),PA-8260(14)
L2236582-19D	Plastic 250ml HNO3 preserved	A	<2	<2	2.6	Y	Absent		PB-6020T-PPB(180)
L2236582-19E	Amber 250ml unpreserved	A	7	7	2.6	Y	Absent		PA-PAHSIM-LVI(7)
L2236582-19F	Amber 250ml unpreserved	A	7	7	2.6	Y	Absent		PA-PAHSIM-LVI(7)
L2236582-20A	Vial MeOH preserved	A	NA		2.6	Y	Absent		PA-8260HLW(14)
L2236582-20B	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-20C	Vial water preserved	A	NA		2.6	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236582-20D	Plastic 2oz unpreserved for TS	A	NA		2.6	Y	Absent		TS(7)
L2236582-20E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.6	Y	Absent		PB-TI(180)
L2236582-20F	Glass 120ml/4oz unpreserved	A	NA		2.6	Y	Absent		PA-PAH(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236582
Project Number:	200.00135.006	**Report Date:**	07/15/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236582
Project Number:	200.00135.006	**Report Date:**	07/15/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236582
Project Number:	200.00135.006	**Report Date:**	07/15/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236582
Project Number:	200.00135.006	**Report Date:**	07/15/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/9/22

ALPHA Job #: L2231682

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments	TOTAL # BOTTLES
36582 01	PB-847-01-5501	7/8/22	900	S			6
02	PB-847-02-5501		910				
03	PB-847-03-5501		920				
04	PB-847-04-5501		930				
05	PB-847-05-5501		940				
06	PB-847-06-5501		950				
07	PB-847-07-5501		1000				
08	PB-847-08-5501		1010				
09	PB-847-09-5501		1020				
10	PB-847-10-5501	↓	1030	↓	↓		↓

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/8/22 1530		7/8/22 1530
	7/8/22 2100		7/8/22 2100
GL AAL	7/9/22 0830	GL AAL	7/8/22 2310

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(HLD)

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/9/22

ALPHA Job #: L2236582

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments	TOTAL # BOTTLES
36582-11	PB-847-11-5501	7/8/22	1040	S			6
12	PB-847-12-5501		1050				6
13	PB-847-13-5501		1100				6
14	PB-847-14-5501		1110				6
15	PB-847-15-5501		1120				6
16	PB-847-16-5501		1130				6
17	PB-847-17-5501		1140				6
18	FB-070822-1		1300	W		"1"	6
19	FB-070822-2		1305			"2"	6
20	DUP-37	↓	—	S	↓		6

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/8/22 1550	AAL	7/8/22 1550
	7/8/22 Rush		7/8/22 Rush
	7/8/22 2150		7/8/22 2150
AAL 7/9/22 0050	7/8/22	AAL 7/9/22 2316	7/8/22

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

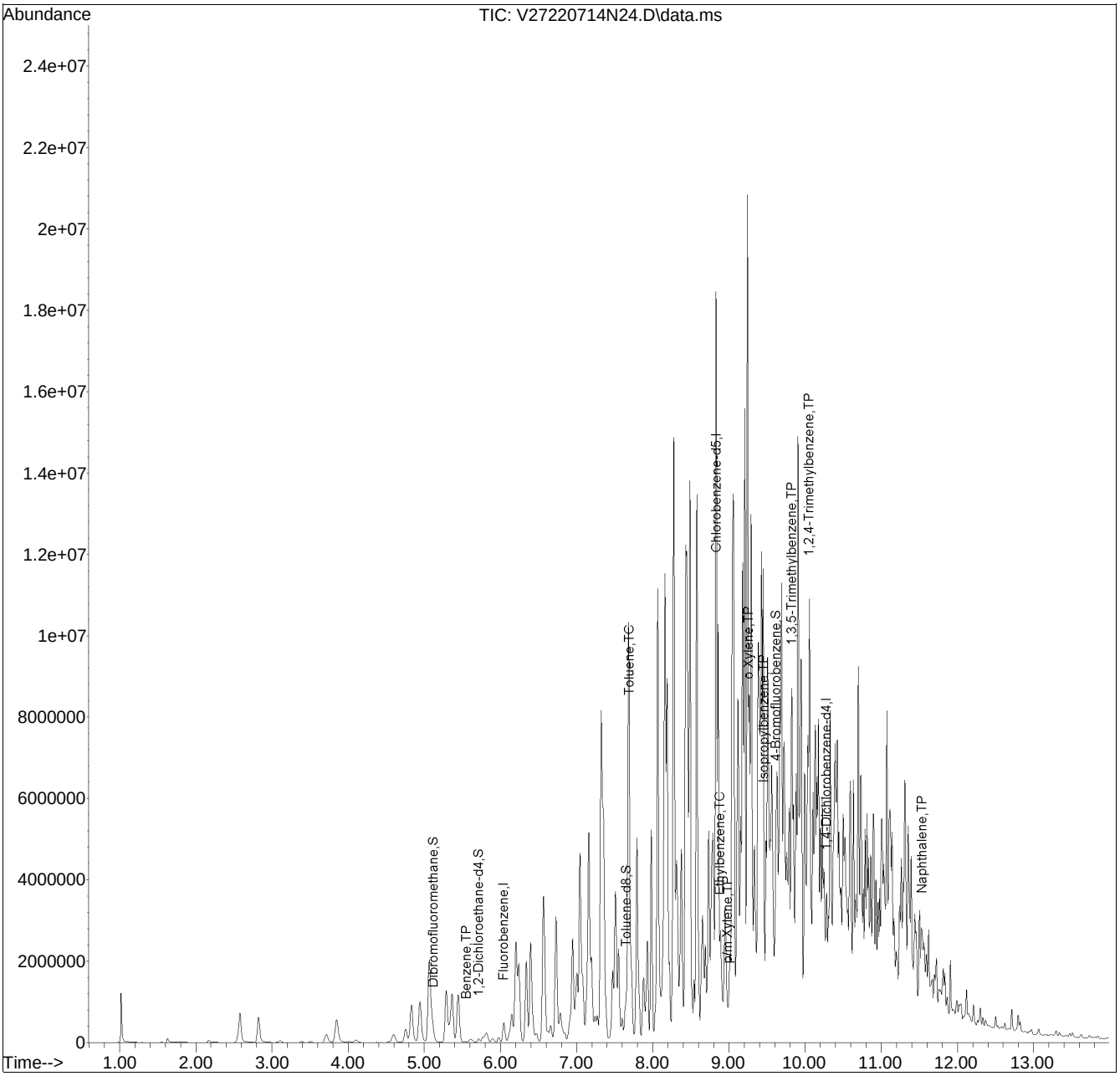
FORM NO: 01-01(1NJ) (rev. 1-JAN-12)

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA127\2022\220714N\
Data File : V27220714N24.D
Acq On : 15 Jul 2022 12:46 am
Operator : VOA127:MKS
Sample : l2236582-12,31,6.79,5,,b,r2f
Misc : WG1663237,ICAL19153
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Jul 15 07:31:13 2022
Quant Method : I:\VOLATILES\VOA127\2022\220714N\V127_220706A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Jul 07 06:48:30 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list14N\V27220714N01.D•



Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA127\2022\220714N\
Data File : V27220714N25.D
Acq On : 15 Jul 2022 01:06 am
Operator : VOA127:MKS
Sample : l2236582-13d,31h,6.60,5,0.025,,a,r2f
Misc : WG1663238,ICAL19153
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jul 15 06:42:38 2022
Quant Method : I:\VOLATILES\VOA127\2022\220714N\V127_220706A_8260.m
Quant Title : VOLATILES BY GC/MS
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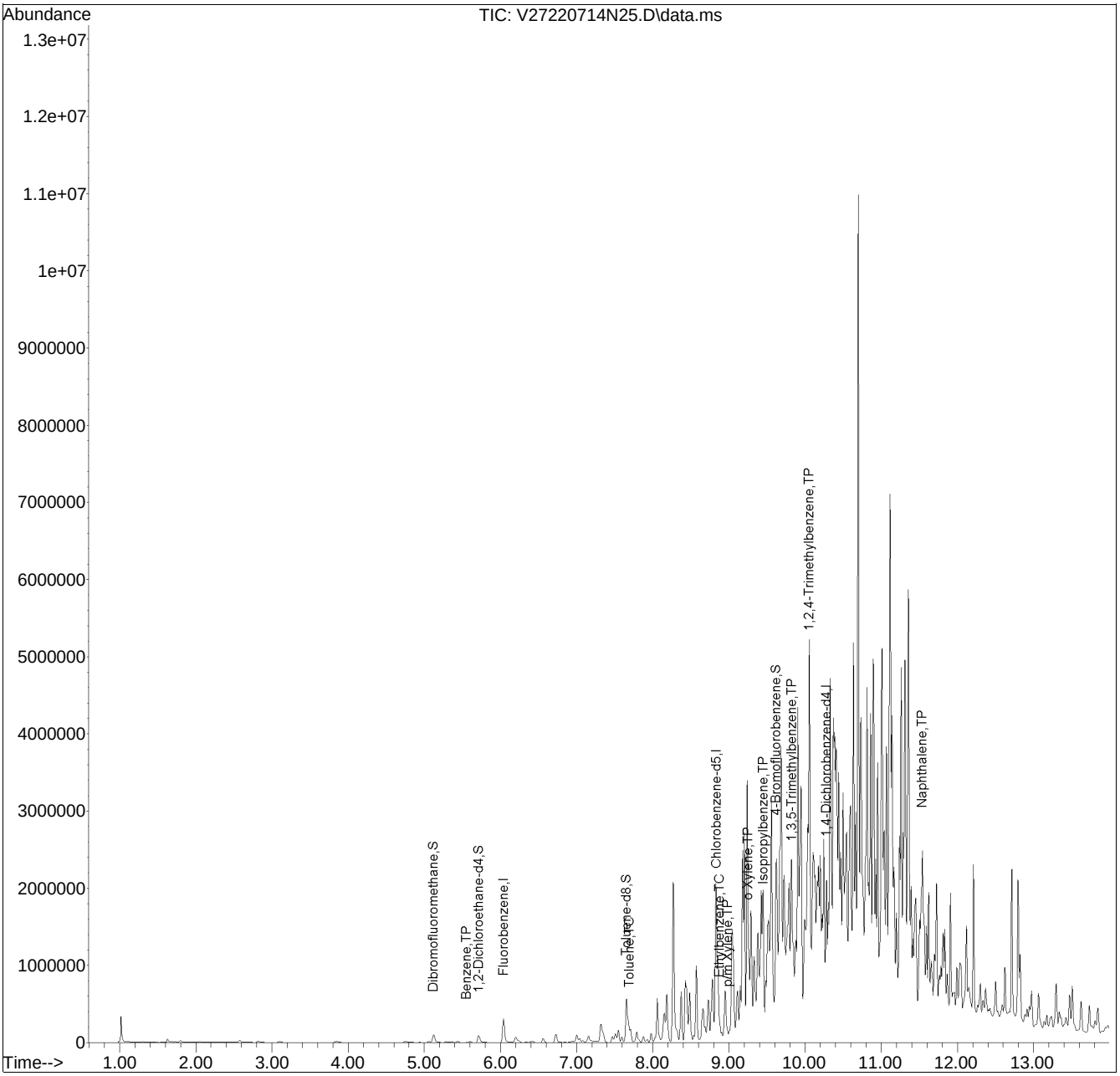
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list14N\V27220714N01.D•

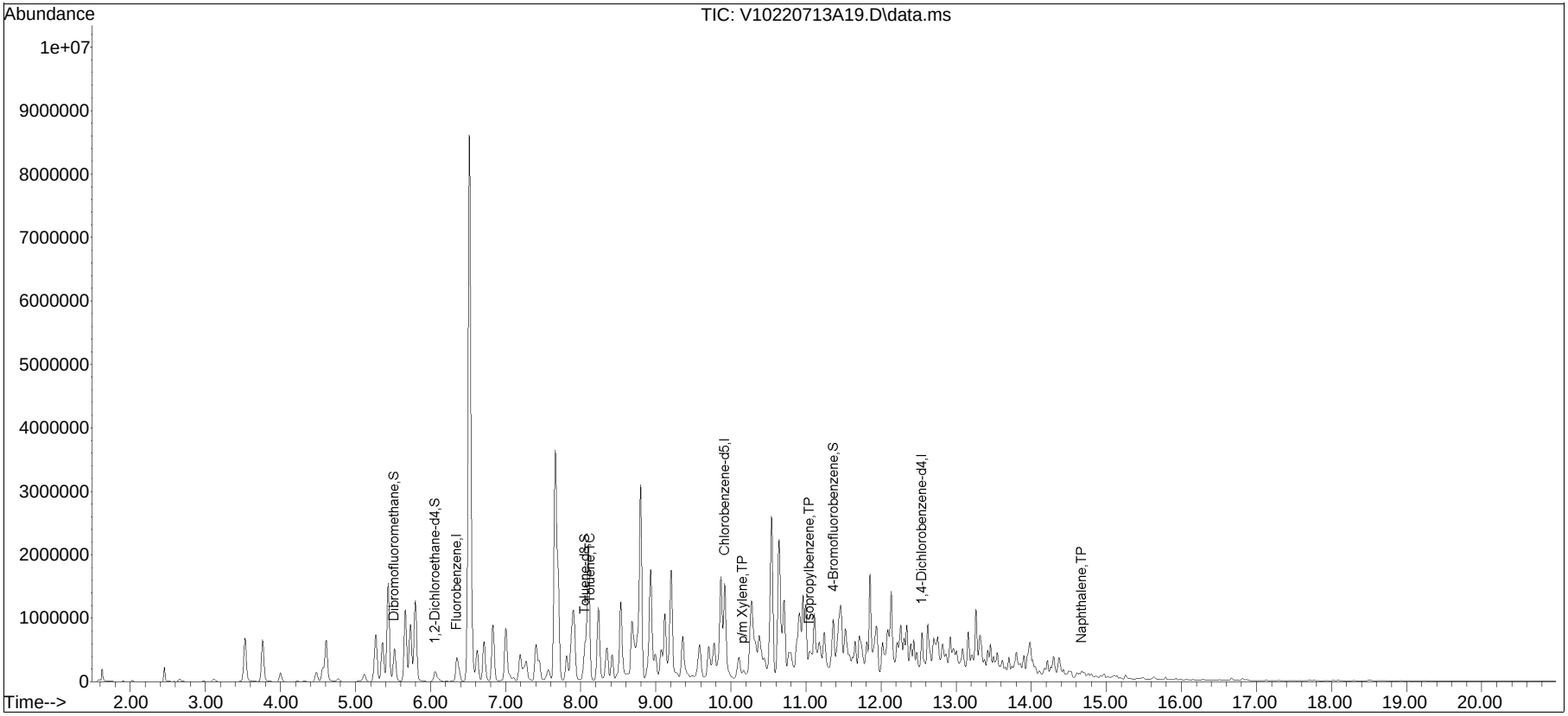


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA110\2022\220713A\
Data File : V10220713A19.D
Acq On : 13 Jul 2022 7:37 pm
Operator : VOA110:JC
Sample : l2236582-14D,31h,6.04,5,0.025,,a,r2f
Misc : WG1662896,ICAL18890
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jul 14 09:25:20 2022
Quant Method : I:\VOLATILES\VOA110\2022\220713A\V110_220401N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 04 06:52:50 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list13A\V10220713A01.D•

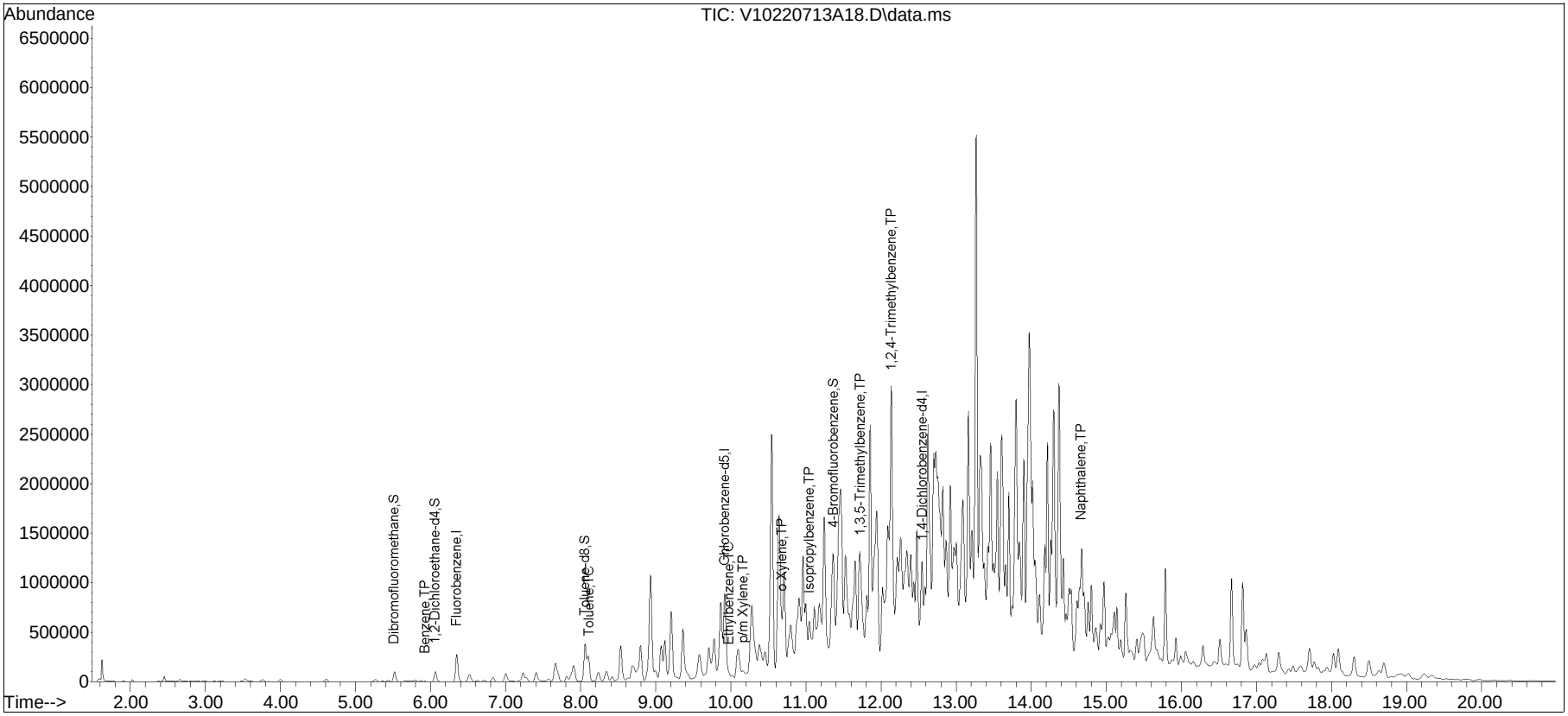


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA110\2022\220713A\
Data File : V10220713A18.D
Acq On : 13 Jul 2022 7:09 pm
Operator : VOA110:JC
Sample : l2236582-15D,31h,5.82,5,0.025,,a,r2f
Misc : WG1662896,ICAL18890
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jul 14 09:18:49 2022
Quant Method : I:\VOLATILES\VOA110\2022\220713A\V110_220401N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 04 06:52:50 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list13A\V10220713A01.D•

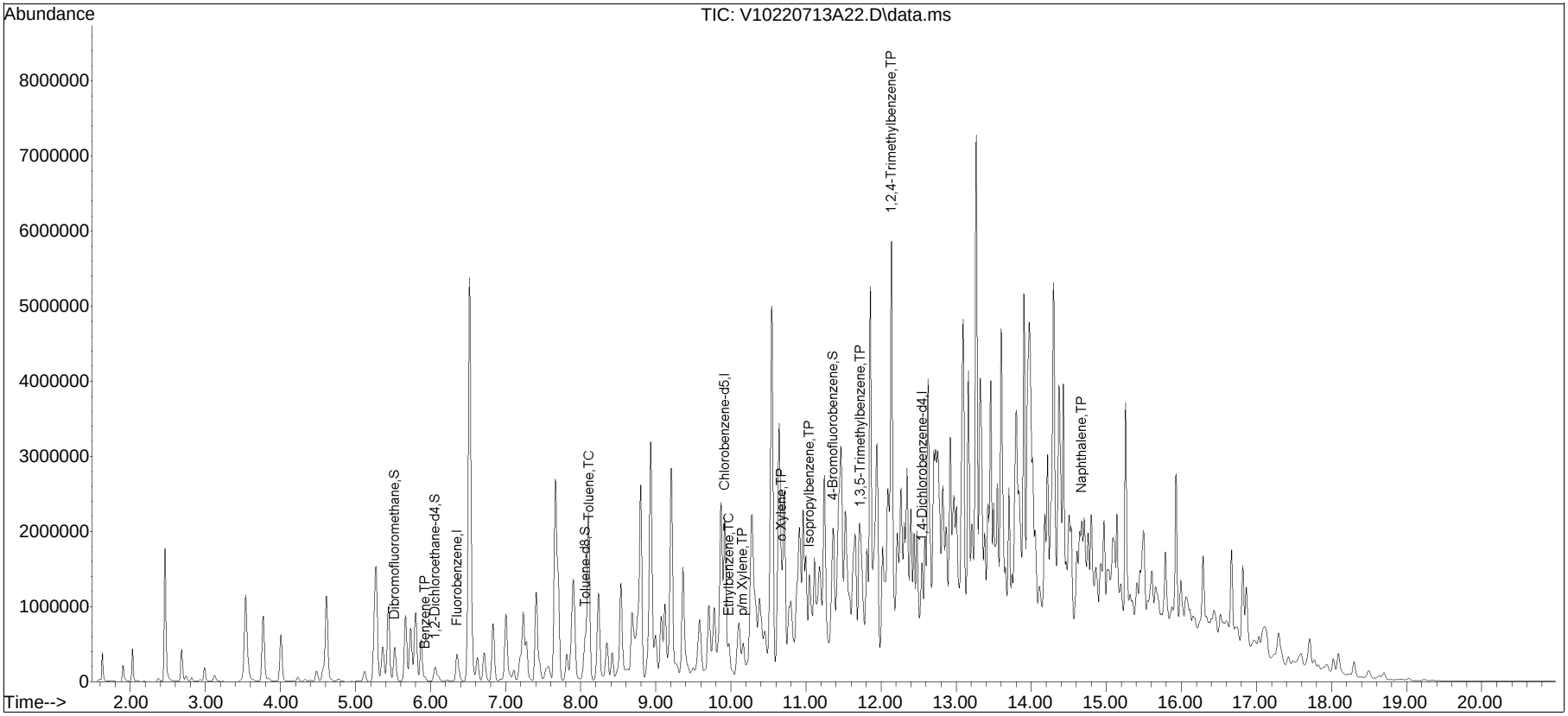


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA110\2022\220713A\
Data File : V10220713A22.D
Acq On : 13 Jul 2022 9:03 pm
Operator : VOA110:JC
Sample : l2236582-17,31,5.72,5,,b,r2f
Misc : WG1662895,ICAL18890
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jul 14 09:25:56 2022
Quant Method : I:\VOLATILES\VOA110\2022\220713A\V110_220401N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 04 06:52:50 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list13A\V10220713A01.D•



ANALYTICAL REPORT

Lab Number:	L2236590
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/15/22

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236590
Report Date: 07/15/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2236590-01	PB-840-01-SS01	SOIL	PHILADELPHIA, PA	07/08/22 09:45	07/08/22
L2236590-02	PB-840-02-SS01	SOIL	PHILADELPHIA, PA	07/08/22 09:50	07/08/22
L2236590-03	PB-840-03-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:00	07/08/22
L2236590-04	PB-840-04-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:10	07/08/22
L2236590-05	PB-840-05-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:20	07/08/22
L2236590-06	PB-840-06-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:30	07/08/22
L2236590-07	PB-840-07-SS01	SOIL	PHILADELPHIA, PA	07/08/22 10:40	07/08/22
L2236590-08	PB-840-08-SS01	SOIL	PHILADELPHIA, PA	07/08/22 11:20	07/08/22
L2236590-09	PB-840-09-SS01	SOIL	PHILADELPHIA, PA	07/08/22 11:30	07/08/22
L2236590-10	PB-840-10-SS01	SOIL	PHILADELPHIA, PA	07/08/22 11:40	07/08/22
L2236590-11	PB-840-11-SS01	SOIL	PHILADELPHIA, PA	07/08/22 12:00	07/08/22
L2236590-12	PB-840-12-SS01	SOIL	PHILADELPHIA, PA	07/08/22 12:10	07/08/22
L2236590-13	PB-840-13-SS01	SOIL	PHILADELPHIA, PA	07/08/22 12:20	07/08/22
L2236590-14	PB-840-14-SS01	SOIL	PHILADELPHIA, PA	07/08/22 12:30	07/08/22
L2236590-15	PB-840-15-SS01	SOIL	PHILADELPHIA, PA	07/08/22 12:40	07/08/22
L2236590-16	PB-840-16-SS01	SOIL	PHILADELPHIA, PA	07/08/22 12:50	07/08/22
L2236590-17	DUP-38	SOIL	PHILADELPHIA, PA	07/08/22 00:00	07/08/22
L2236590-18	FB-070822-3	WATER	PHILADELPHIA, PA	07/08/22 13:00	07/08/22
L2236590-19	FB-070822-4	WATER	PHILADELPHIA, PA	07/08/22 13:10	07/08/22
L2236590-20	TB-070822	WATER	PHILADELPHIA, PA	07/08/22 00:00	07/08/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236590
Project Number:	200.00135.006	**Report Date:**	07/15/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236590
Project Number:	200.00135.006	**Report Date:**	07/15/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2236590-01: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (141%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236590-15: The surrogate recovery is outside the acceptance criteria for 1,2-dichloroethane-d4 (67%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Total Metals

The WG1661456-4 Laboratory Duplicate RPD for lead (50%), performed on L2236590-01, is outside the acceptance criteria. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Caitlin Walukevich

Title: Technical Director/Representative

Date: 07/15/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-01
Client ID: PB-840-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:45
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 22:51
Analyst: MKS
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0032	0.00032	1
Benzene	0.0060		mg/kg	0.00080	0.00027	1
1,2-Dichloroethane	ND		mg/kg	0.0016	0.00041	1
Toluene	0.0026		mg/kg	0.0016	0.00087	1
1,2-Dibromoethane	ND		mg/kg	0.00080	0.00047	1
Ethylbenzene	0.00068	J	mg/kg	0.0016	0.00023	1
p/m-Xylene	0.0070		mg/kg	0.0032	0.00090	1
o-Xylene	0.0010	J	mg/kg	0.0016	0.00047	1
Xylenes, Total	0.0080	J	mg/kg	0.0016	0.00047	1
Isopropylbenzene	0.0092		mg/kg	0.0016	0.00018	1
1,3,5-Trimethylbenzene	0.0023	J	mg/kg	0.0032	0.00031	1
1,2,4-Trimethylbenzene	0.0014	J	mg/kg	0.0032	0.00054	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	73		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	**141**	Q	70-130
Dibromofluoromethane	87		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-02
Client ID: PB-840-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 02:06
Analyst: JC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	0.00021	J	mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	0.00019	J	mg/kg	0.0010	0.00014	1
p/m-Xylene	0.0020		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	0.0020		mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.00034	J	mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	0.0059		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	0.0035		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	74		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	89		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-03
Client ID: PB-840-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 22:38
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00095	0.00024	1
Toluene	ND		mg/kg	0.00095	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	0.00028	J	mg/kg	0.00095	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00053	1
o-Xylene	ND		mg/kg	0.00095	0.00028	1
Xylenes, Total	ND		mg/kg	0.00095	0.00028	1
Isopropylbenzene	0.00015	J	mg/kg	0.00095	0.00010	1
1,3,5-Trimethylbenzene	0.00062	J	mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	77		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-04
Client ID: PB-840-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 23:01
Analyst: JC
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00057	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00031	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	84		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-05
Client ID: PB-840-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 23:14
Analyst: MKS
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0029	0.00029	1
Benzene	ND		mg/kg	0.00072	0.00024	1
1,2-Dichloroethane	ND		mg/kg	0.0014	0.00037	1
Toluene	ND		mg/kg	0.0014	0.00079	1
1,2-Dibromoethane	ND		mg/kg	0.00072	0.00042	1
Ethylbenzene	ND		mg/kg	0.0014	0.00020	1
p/m-Xylene	ND		mg/kg	0.0029	0.00081	1
o-Xylene	ND		mg/kg	0.0014	0.00042	1
Xylenes, Total	ND		mg/kg	0.0014	0.00042	1
Isopropylbenzene	ND		mg/kg	0.0014	0.00016	1
1,3,5-Trimethylbenzene	0.00047	J	mg/kg	0.0029	0.00028	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0029	0.00048	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	73		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	91		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-06
Client ID: PB-840-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 23:37
Analyst: MKS
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00019	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00093	0.00024	1
Toluene	ND		mg/kg	0.00093	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	0.00058	J	mg/kg	0.00093	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00052	1
o-Xylene	ND		mg/kg	0.00093	0.00027	1
Xylenes, Total	ND		mg/kg	0.00093	0.00027	1
Isopropylbenzene	0.0016		mg/kg	0.00093	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	73		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	87		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-07
Client ID: PB-840-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 23:24
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00023	1
Benzene	0.023		mg/kg	0.00056	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	0.00079	J	mg/kg	0.0011	0.00061	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	0.016		mg/kg	0.0011	0.00016	1
p/m-Xylene	0.043		mg/kg	0.0022	0.00063	1
o-Xylene	0.0011		mg/kg	0.0011	0.00033	1
Xylenes, Total	0.044		mg/kg	0.0011	0.00033	1
Isopropylbenzene	0.0020		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.0056		mg/kg	0.0022	0.00022	1
1,2,4-Trimethylbenzene	0.019		mg/kg	0.0022	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	76		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	90		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-08
Client ID: PB-840-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/13/22 23:47
Analyst: JC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	0.00069		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00061	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	0.00015	J	mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	80		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-09 D2
Client ID: PB-840-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 01:09
Analyst: MKS
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,4-Trimethylbenzene	92.		mg/kg	1.2	0.20	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	72		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	84		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-09 D
Client ID: PB-840-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 04:46
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.61	0.061	5
Benzene	4.4		mg/kg	0.15	0.050	5
1,2-Dichloroethane	ND		mg/kg	0.30	0.078	5
Toluene	0.30		mg/kg	0.30	0.16	5
1,2-Dibromoethane	ND		mg/kg	0.15	0.089	5
Ethylbenzene	66.		mg/kg	0.30	0.043	5
p/m-Xylene	160		mg/kg	0.61	0.17	5
o-Xylene	37.		mg/kg	0.30	0.089	5
Xylenes, Total	200		mg/kg	0.30	0.089	5
Isopropylbenzene	15.		mg/kg	0.30	0.033	5
1,3,5-Trimethylbenzene	33.		mg/kg	0.61	0.059	5
1,2,4-Trimethylbenzene	92.	E	mg/kg	0.61	0.10	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	71		70-130
Toluene-d8	111		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	83		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-10
Client ID: PB-840-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 00:10
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	0.022		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	0.022		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.0038		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	0.012		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	78		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-11
Client ID: PB-840-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 23:59
Analyst: MKS
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0016	0.00016	1
Benzene	0.0084		mg/kg	0.00039	0.00013	1
1,2-Dichloroethane	ND		mg/kg	0.00078	0.00020	1
Toluene	ND		mg/kg	0.00078	0.00042	1
1,2-Dibromoethane	ND		mg/kg	0.00039	0.00023	1
Ethylbenzene	0.0097		mg/kg	0.00078	0.00011	1
p/m-Xylene	0.054		mg/kg	0.0016	0.00044	1
o-Xylene	0.0049		mg/kg	0.00078	0.00023	1
Xylenes, Total	0.059		mg/kg	0.00078	0.00023	1
Isopropylbenzene	0.0058		mg/kg	0.00078	0.00008	1
1,3,5-Trimethylbenzene	0.040		mg/kg	0.0016	0.00015	1
1,2,4-Trimethylbenzene	0.072		mg/kg	0.0016	0.00026	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	75		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	124		70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-12
Client ID: PB-840-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 00:33
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00053	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00027	1
Toluene	ND		mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00060	1
o-Xylene	ND		mg/kg	0.0011	0.00031	1
Xylenes, Total	ND		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	74		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	89		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-13
Client ID: PB-840-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 00:57
Analyst: JC
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00059	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00064	1
1,2-Dibromoethane	ND		mg/kg	0.00059	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00066	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-14
Client ID: PB-840-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 12:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 01:20
Analyst: JC
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00061	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	86		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-15
Client ID: PB-840-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 00:22
Analyst: MKS
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**67**	Q	70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	84		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-16
Client ID: PB-840-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 00:45
Analyst: MKS
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00044	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00089	0.00023	1
Toluene	ND		mg/kg	0.00089	0.00048	1
1,2-Dibromoethane	ND		mg/kg	0.00044	0.00026	1
Ethylbenzene	ND		mg/kg	0.00089	0.00012	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00089	0.00026	1
Xylenes, Total	ND		mg/kg	0.00089	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00089	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	71		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	88		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-17
Client ID: DUP-38
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 01:43
Analyst: JC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00057	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00030	1
Toluene	ND		mg/kg	0.0011	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00057	0.00034	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00064	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	87		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-18
Client ID: FB-070822-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 16:26
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-18
Client ID: FB-070822-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/13/22 20:02
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	125		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	126		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-19
Client ID: FB-070822-4
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 16:33
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-19
Client ID: FB-070822-4
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 13:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/13/22 19:36
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	124		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	127		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-20
Client ID: TB-070822
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 16:39
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-20
Client ID: TB-070822
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/13/22 19:10
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	120		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/13/22 14:45
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 18-20 Batch: WG1662273-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2236590

Project Number: 200.00135.006 **Report Date:** 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/13/22 21:06
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-04,07-08,10,12-14,17 Batch: WG1662979-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/13/22 21:06
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 09 Batch: WG1662980-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/14/22 20:32
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,05-06,11,15-16 Batch: WG1663272-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/14/22 20:32
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 09 Batch: WG1663273-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/13/22 17:26
Analyst: TMS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 18-20 Batch: WG1663309-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	119		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 18-20 Batch: WG1662273-2								
1,2-Dibromoethane	110		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-04,07-08,10,12-14,17 Batch: WG1662979-3 WG1662979-4								
Methyl tert butyl ether	90		90		66-130	0		30
Benzene	83		82		70-130	1		30
1,2-Dichloroethane	**66**	Q	**66**	Q	70-130	0		30
Toluene	81		78		70-130	4		30
1,2-Dibromoethane	90		89		70-130	1		30
Ethylbenzene	80		77		70-130	4		30
p/m-Xylene	85		81		70-130	5		30
o-Xylene	86		82		70-130	5		30
Isopropylbenzene	81		77		70-130	5		30
1,3,5-Trimethylbenzene	82		77		70-130	6		30
1,2,4-Trimethylbenzene	83		78		70-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	77		77		70-130
Toluene-d8	97		97		70-130
4-Bromofluorobenzene	95		94		70-130
Dibromofluoromethane	91		91		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 09 Batch: WG1662980-3 WG1662980-4								
Methyl tert butyl ether	90		90		66-130	0		30
Benzene	83		82		70-130	1		30
1,2-Dichloroethane	**66**	Q	**66**	Q	70-130	0		30
Toluene	81		78		70-130	4		30
1,2-Dibromoethane	90		89		70-130	1		30
Ethylbenzene	80		77		70-130	4		30
p/m-Xylene	85		81		70-130	5		30
o-Xylene	86		82		70-130	5		30
Isopropylbenzene	81		77		70-130	5		30
1,3,5-Trimethylbenzene	82		77		70-130	6		30
1,2,4-Trimethylbenzene	83		78		70-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	77		77		70-130
Toluene-d8	97		97		70-130
4-Bromofluorobenzene	95		94		70-130
Dibromofluoromethane	91		91		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236590
Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,05-06,11,15-16 Batch: WG1663272-3 WG1663272-4								
Methyl tert butyl ether	102		95		66-130	7		30
Benzene	95		94		70-130	1		30
1,2-Dichloroethane	71		71		70-130	0		30
Toluene	93		92		70-130	1		30
1,2-Dibromoethane	97		96		70-130	1		30
Ethylbenzene	92		91		70-130	1		30
p/m-Xylene	97		96		70-130	1		30
o-Xylene	97		94		70-130	3		30
Isopropylbenzene	97		97		70-130	0		30
1,3,5-Trimethylbenzene	94		95		70-130	1		30
1,2,4-Trimethylbenzene	95		94		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	77		76		70-130
Toluene-d8	96		97		70-130
4-Bromofluorobenzene	96		97		70-130
Dibromofluoromethane	95		91		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236590
Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 09 Batch: WG1663273-3 WG1663273-4								
Methyl tert butyl ether	102		95		66-130	7		30
Benzene	95		94		70-130	1		30
1,2-Dichloroethane	71		71		70-130	0		30
Toluene	93		92		70-130	1		30
1,2-Dibromoethane	97		96		70-130	1		30
Ethylbenzene	92		91		70-130	1		30
p/m-Xylene	97		96		70-130	1		30
o-Xylene	97		94		70-130	3		30
Isopropylbenzene	97		97		70-130	0		30
1,3,5-Trimethylbenzene	94		95		70-130	1		30
1,2,4-Trimethylbenzene	95		94		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	77		76		70-130
Toluene-d8	96		97		70-130
4-Bromofluorobenzene	96		97		70-130
Dibromofluoromethane	95		91		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 18-20 Batch: WG1663309-3 WG1663309-4								
Methyl tert butyl ether	95		97		63-130	2		20
Benzene	98		100		70-130	2		20
1,2-Dichloroethane	100		100		70-130	0		20
Toluene	95		96		70-130	1		20
Ethylbenzene	94		96		70-130	2		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
Isopropylbenzene	88		92		70-130	4		20
1,3,5-Trimethylbenzene	91		95		64-130	4		20
1,2,4-Trimethylbenzene	90		94		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		105		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	102		94		70-130
Dibromofluoromethane	102		104		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-01
Client ID: PB-840-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:45
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 08:06
Analyst: SLR
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.046	J	mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	0.19		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	0.21		mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.15		mg/kg	0.12	0.022	1
Chrysene	0.22		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.18		mg/kg	0.12	0.033	1
Benzo(a)pyrene	0.15	J	mg/kg	0.16	0.048	1
Benzo(ghi)perylene	0.12	J	mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	118		23-120
2-Fluorobiphenyl	61		30-120
4-Terphenyl-d14	75		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-02
Client ID: PB-840-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 09:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 05:46
Analyst: SLR
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.023	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	114		23-120
2-Fluorobiphenyl	60		30-120
4-Terphenyl-d14	72		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-03
Client ID: PB-840-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 04:35
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	105		23-120
2-Fluorobiphenyl	56		30-120
4-Terphenyl-d14	66		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-04
Client ID: PB-840-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 03:25
Analyst: SLR
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**139**	Q	23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	81		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-05
Client ID: PB-840-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 10:27
Analyst: SLR
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.075	J	mg/kg	0.18	0.022	1
Fluorene	0.023	J	mg/kg	0.18	0.017	1
Phenanthrene	0.073	J	mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	0.056	J	mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.030	J	mg/kg	0.11	0.020	1
Chrysene	0.056	J	mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	0.053	J	mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	0.025	J	mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**126**	Q	23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	76		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-06
Client ID: PB-840-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 09:16
Analyst: SLR
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.023	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	0.049	J	mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	0.018	J	mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**130**	Q	23-120
2-Fluorobiphenyl	65		30-120
4-Terphenyl-d14	75		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-07
Client ID: PB-840-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 10:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 06:56
Analyst: SLR
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**145**	Q	23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-08
Client ID: PB-840-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 06:32
Analyst: SLR
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	116		23-120
2-Fluorobiphenyl	63		30-120
4-Terphenyl-d14	76		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-09
Client ID: PB-840-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 10:50
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	10.	E	mg/kg	0.19	0.023	1
Fluorene	1.9		mg/kg	0.19	0.019	1
Phenanthrene	4.8		mg/kg	0.12	0.023	1
Anthracene	0.16		mg/kg	0.12	0.037	1
Pyrene	0.48		mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.97		mg/kg	0.12	0.022	1
Chrysene	0.22		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.12		mg/kg	0.12	0.032	1
Benzo(a)pyrene	0.096	J	mg/kg	0.15	0.047	1
Benzo(ghi)perylene	0.072	J	mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**235**	Q	23-120
2-Fluorobiphenyl	53		30-120
4-Terphenyl-d14	57		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-09 D
Client ID: PB-840-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 16:11
Analyst: JG
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	9.3		mg/kg	1.9	0.23	10

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-10
Client ID: PB-840-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 11:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 06:09
Analyst: SLR
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.022	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**144**	Q	23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	89		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-11
Client ID: PB-840-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 09:40
Analyst: SLR
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.090	J	mg/kg	0.20	0.024	1
Fluorene	0.072	J	mg/kg	0.20	0.019	1
Phenanthrene	0.18		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	0.031	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	0.041	J	mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**124**	Q	23-120
2-Fluorobiphenyl	62		30-120
4-Terphenyl-d14	72		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-12
Client ID: PB-840-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 07:19
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**141**	Q	23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	81		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-13
Client ID: PB-840-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 07:42
Analyst: SLR
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 20:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.023	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**123**	Q	23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	77		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-14
Client ID: PB-840-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 10:03
Analyst: SLR
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 20:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	0.17		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	0.28		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.18		mg/kg	0.11	0.020	1
Chrysene	0.17		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	0.22		mg/kg	0.11	0.030	1
Benzo(a)pyrene	0.18		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	0.099	J	mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	110		23-120
2-Fluorobiphenyl	56		30-120
4-Terphenyl-d14	67		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-15
Client ID: PB-840-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/12/22 07:42
Analyst: CMM
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 20:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.091	J	mg/kg	0.18	0.022	1
Fluorene	0.050	J	mg/kg	0.18	0.017	1
Phenanthrene	0.41		mg/kg	0.11	0.022	1
Anthracene	0.11		mg/kg	0.11	0.035	1
Pyrene	0.68		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.48		mg/kg	0.11	0.020	1
Chrysene	0.44		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	0.57		mg/kg	0.11	0.030	1
Benzo(a)pyrene	0.46		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	0.22		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	79		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-16
Client ID: PB-840-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 12:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 20:27
Analyst: JG
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:48

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	0.14		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	0.18		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.12		mg/kg	0.11	0.021	1
Chrysene	0.13		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.18		mg/kg	0.11	0.031	1
Benzo(a)pyrene	0.14	J	mg/kg	0.15	0.045	1
Benzo(ghi)perylene	0.098	J	mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	119		23-120
2-Fluorobiphenyl	62		30-120
4-Terphenyl-d14	68		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-17
Client ID: DUP-38
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/11/22 20:50
Analyst: JG
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:48

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.045	J	mg/kg	0.19	0.023	1
Fluorene	0.052	J	mg/kg	0.19	0.018	1
Phenanthrene	0.39		mg/kg	0.11	0.023	1
Anthracene	0.092	J	mg/kg	0.11	0.036	1
Pyrene	0.53		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.44		mg/kg	0.11	0.021	1
Chrysene	0.43		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.52		mg/kg	0.11	0.031	1
Benzo(a)pyrene	0.40		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	0.18		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**133**	Q	23-120
2-Fluorobiphenyl	65		30-120
4-Terphenyl-d14	69		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-18
Client ID: FB-070822-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/10/22 16:35
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 07/10/22 07:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	33		23-120
2-Fluorobiphenyl	33		15-120
4-Terphenyl-d14	**35**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-19
Client ID: FB-070822-4
Sample Location: PHILADELPHIA, PA

Date Collected: 07/08/22 13:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/10/22 16:51
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 07/10/22 07:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	33		23-120
2-Fluorobiphenyl	33		15-120
4-Terphenyl-d14	**38**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/10/22 15:47
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/10/22 07:44

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 18-19 Batch: WG1660895-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	35		23-120
2-Fluorobiphenyl	33		15-120
4-Terphenyl-d14	**32**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/11/22 11:50
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 07/10/22 16:16

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 16-17 Batch: WG1660990-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	109		23-120
2-Fluorobiphenyl	55		30-120
4-Terphenyl-d14	58		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/12/22 01:51
Analyst: SLR

Extraction Method: EPA 3546
Extraction Date: 07/10/22 19:50

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-15 Batch: WG1661021-1					
Naphthalene	ND		mg/kg	0.17	0.020
Fluorene	ND		mg/kg	0.17	0.016
Phenanthrene	ND		mg/kg	0.10	0.020
Anthracene	ND		mg/kg	0.10	0.032
Pyrene	ND		mg/kg	0.10	0.016
Benzo(a)anthracene	ND		mg/kg	0.10	0.019
Chrysene	ND		mg/kg	0.10	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.020

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	119		23-120
2-Fluorobiphenyl	63		30-120
4-Terphenyl-d14	76		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 18-19 Batch: WG1660895-2 WG1660895-3								
Naphthalene	50		50		40-140	0		40
Fluorene	48		46		40-140	4		40
Phenanthrene	46		44		40-140	4		40
Anthracene	47		45		40-140	4		40
Pyrene	54		50		26-127	8		40
Benzo(a)anthracene	43		40		40-140	7		40
Chrysene	46		45		40-140	2		40
Benzo(b)fluoranthene	48		45		40-140	6		40
Benzo(a)pyrene	45		41		40-140	9		40
Benzo(ghi)perylene	50		47		40-140	6		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	27		26		23-120
2-Fluorobiphenyl	25		24		15-120
4-Terphenyl-d14	**27**	Q	**25**	Q	41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 16-17 Batch: WG1660990-2 WG1660990-3								
Naphthalene	57		63		40-140	10		50
Fluorene	64		68		40-140	6		50
Phenanthrene	60		65		40-140	8		50
Anthracene	62		67		40-140	8		50
Pyrene	60		65		35-142	8		50
Benzo(a)anthracene	67		71		40-140	6		50
Chrysene	64		70		40-140	9		50
Benzo(b)fluoranthene	66		76		40-140	14		50
Benzo(a)pyrene	74		75		40-140	1		50
Benzo(ghi)perylene	54		67		40-140	21		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	107		**126**	Q	23-120
2-Fluorobiphenyl	54		58		30-120
4-Terphenyl-d14	59		65		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-15 Batch: WG1661021-2 WG1661021-3								
Naphthalene	73		64		40-140	13		50
Fluorene	81		70		40-140	15		50
Phenanthrene	78		68		40-140	**199**	Q	50
Anthracene	79		69		40-140	14		50
Pyrene	79		68		35-142	15		50
Benzo(a)anthracene	85		74		40-140	14		50
Chrysene	84		72		40-140	15		50
Benzo(b)fluoranthene	93		81		40-140	14		50
Benzo(a)pyrene	91		78		40-140	15		50
Benzo(ghi)perylene	81		69		40-140	16		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	**131**	Q	113		23-120
2-Fluorobiphenyl	69		60		30-120
4-Terphenyl-d14	79		71		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-01
Client ID: PB-840-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 09:45
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	19.2		mg/kg	4.58	0.246	2	07/12/22 12:36	07/15/22 10:51	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-02
Client ID: PB-840-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 09:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.66		mg/kg	2.26	0.121	1	07/12/22 12:36	07/15/22 08:26	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-03
Client ID: PB-840-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.92		mg/kg	2.29	0.123	1	07/12/22 12:36	07/15/22 08:31	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-04
Client ID: PB-840-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	10.9		mg/kg	2.02	0.108	1	07/12/22 12:36	07/15/22 09:07	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-05
Client ID: PB-840-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	103		mg/kg	2.12	0.113	1	07/12/22 12:36	07/15/22 09:12	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-06
Client ID: PB-840-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.05		mg/kg	2.20	0.118	1	07/12/22 12:36	07/15/22 09:16	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-07
Client ID: PB-840-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 10:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.94		mg/kg	2.26	0.121	1	07/12/22 12:36	07/15/22 09:21	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-08
Client ID: PB-840-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.75		mg/kg	2.33	0.125	1	07/12/22 12:36	07/15/22 09:25	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-09
Client ID: PB-840-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.30		mg/kg	2.27	0.122	1	07/12/22 12:36	07/15/22 09:30	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-10
Client ID: PB-840-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 11:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.38		mg/kg	2.25	0.120	1	07/12/22 12:36	07/15/22 09:35	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-11
Client ID: PB-840-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 12:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.06		mg/kg	2.36	0.127	1	07/12/22 12:36	07/15/22 09:39	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-12
Client ID: PB-840-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 12:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.21		mg/kg	2.26	0.121	1	07/12/22 12:36	07/15/22 09:44	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-13
Client ID: PB-840-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 12:20
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.78		mg/kg	2.10	0.113	1	07/12/22 12:36	07/15/22 09:48	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-14
Client ID: PB-840-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 12:30
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	44.4		mg/kg	2.09	0.112	1	07/12/22 12:36	07/15/22 10:28	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-15
Client ID: PB-840-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 12:40
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	49.2		mg/kg	4.30	0.231	2	07/12/22 12:36	07/15/22 15:11	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-16
Client ID: PB-840-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 12:50
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	53.1		mg/kg	2.22	0.119	1	07/12/22 12:36	07/15/22 10:37	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-17
Client ID: DUP-38
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	36.7		mg/kg	2.20	0.118	1	07/12/22 12:36	07/15/22 10:42	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-18
Client ID: FB-070822-3
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 13:00
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/11/22 09:35	07/12/22 10:41	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236590
Project Number: 200.00135.006
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-19
Client ID: FB-070822-4
Sample Location: PHILADELPHIA, PA
Date Collected: 07/08/22 13:10
Date Received: 07/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/11/22 09:35	07/12/22 10:46	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 18-19 Batch: WG1660944-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/11/22 09:35	07/12/22 09:42	1,6020B	SV

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-17 Batch: WG1661456-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/12/22 12:36	07/15/22 08:17	1,6010D	NB

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 18-19 Batch: WG1660944-2								
Lead, Total	100		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-17 Batch: WG1661456-2 SRM Lot Number: D113-540								
Lead, Total	84		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236590
Report Date: 07/15/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 18-19 QC Batch ID: WG1660944-3 QC Sample: L2236582-18 Client ID: MS Sample												
Lead, Total	ND	530	536.0	101		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-17 QC Batch ID: WG1661456-3 QC Sample: L2236590-01 Client ID: PB-840-01-SS01												
Lead, Total	19.2	48.2	57.6	80		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 18-19 QC Batch ID: WG1660944-4 QC Sample: L2236582-18 Client ID: DUP Sample						
Lead, Total	ND	ND	ug/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-17 QC Batch ID: WG1661456-4 QC Sample: L2236590-01 Client ID: PB-840-01-SS01						
Lead, Total	19.2	32.1	mg/kg	**50**	Q	20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-01
Client ID: PB-840-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 09:45
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.8		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-02
Client ID: PB-840-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 09:50
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.2		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-03
Client ID: PB-840-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/08/22 10:00
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.0		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-04
Client ID: PB-840-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:10
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.3		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-05
Client ID: PB-840-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:20
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.8		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-06
Client ID: PB-840-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:30
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.8		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-07
Client ID: PB-840-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 10:40
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.4		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-08
Client ID: PB-840-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/08/22 11:20
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.5		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-09
Client ID: PB-840-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 11:30
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.2		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-10
Client ID: PB-840-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/08/22 11:40
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.3		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-11
Client ID: PB-840-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 12:00
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-12
Client ID: PB-840-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 12:10
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.0		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-13
Client ID: PB-840-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 12:20
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.7		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-14
Client ID: PB-840-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 12:30
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.2		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-15
Client ID: PB-840-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/08/22 12:40
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.1		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-16
Client ID: PB-840-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/08/22 12:50
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.2		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236590
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2236590-17
Client ID: DUP-38
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/08/22 00:00
Date Received: 07/08/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.2		%	0.100	NA	1	-	07/11/22 19:55	121,2540G	MF

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236590

Report Date: 07/15/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-17 QC Batch ID: WG1661481-1 QC Sample: L2236590-01 Client ID: PB-840-01-SS01						
Solids, Total	82.8	82.6	%	0		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236590
Report Date: 07/15/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236590-01A	Vial MeOH preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-01B	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-01C	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-01D	Plastic 2oz unpreserved for TS	B	NA		5.8	Y	Absent		TS(7)
L2236590-01E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PB-TI(180)
L2236590-01F	Glass 120ml/4oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-02A	Vial MeOH preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-02B	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-02C	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-02D	Plastic 2oz unpreserved for TS	B	NA		5.8	Y	Absent		TS(7)
L2236590-02E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PB-TI(180)
L2236590-02F	Glass 120ml/4oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-03A	Vial MeOH preserved	A	NA		2.4	Y	Absent		PA-8260HLW(14)
L2236590-03B	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-03C	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-03D	Plastic 2oz unpreserved for TS	A	NA		2.4	Y	Absent		TS(7)
L2236590-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		PB-TI(180)
L2236590-03F	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		PA-PAH(14)
L2236590-04A	Vial MeOH preserved	A	NA		2.4	Y	Absent		PA-8260HLW(14)
L2236590-04B	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-04C	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-04D	Plastic 2oz unpreserved for TS	A	NA		2.4	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236590-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		PB-TI(180)
L2236590-04F	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		PA-PAH(14)
L2236590-05A	Vial MeOH preserved	A	NA		2.4	Y	Absent		PA-8260HLW(14)
L2236590-05B	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-05C	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-05D	Plastic 2oz unpreserved for TS	A	NA		2.4	Y	Absent		TS(7)
L2236590-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		PB-TI(180)
L2236590-05F	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		PA-PAH(14)
L2236590-06A	Vial MeOH preserved	A	NA		2.4	Y	Absent		PA-8260HLW(14)
L2236590-06B	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-06C	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-06D	Plastic 2oz unpreserved for TS	A	NA		2.4	Y	Absent		TS(7)
L2236590-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		PB-TI(180)
L2236590-06F	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		PA-PAH(14)
L2236590-07A	Vial MeOH preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-07B	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-07C	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-07D	Plastic 2oz unpreserved for TS	B	NA		5.8	Y	Absent		TS(7)
L2236590-07E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PB-TI(180)
L2236590-07F	Glass 120ml/4oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-08A	Vial MeOH preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-08B	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-08C	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-08D	Plastic 2oz unpreserved for TS	B	NA		5.8	Y	Absent		TS(7)
L2236590-08E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PB-TI(180)
L2236590-08F	Glass 120ml/4oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-09A	Vial MeOH preserved	A	NA		2.4	Y	Absent		PA-8260HLW(14)
L2236590-09B	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236590
Report Date: 07/15/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236590-09C	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-09D	Plastic 2oz unpreserved for TS	A	NA		2.4	Y	Absent		TS(7)
L2236590-09E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		PB-TI(180)
L2236590-09F	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		PA-PAH(14)
L2236590-10A	Vial MeOH preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-10B	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-10C	Vial water preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-10D	Plastic 2oz unpreserved for TS	B	NA		5.8	Y	Absent		TS(7)
L2236590-10E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PB-TI(180)
L2236590-10F	Glass 120ml/4oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-11A	Vial MeOH preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-11B	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-11C	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-11D	Plastic 2oz unpreserved for TS	B	NA		5.8	Y	Absent		TS(7)
L2236590-11E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PB-TI(180)
L2236590-11F	Glass 120ml/4oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-12A	Vial MeOH preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-12B	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-12C	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-12D	Plastic 2oz unpreserved for TS	B	NA		5.8	Y	Absent		TS(7)
L2236590-12E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PB-TI(180)
L2236590-12F	Glass 120ml/4oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-13A	Vial MeOH preserved	A	NA		2.4	Y	Absent		PA-8260HLW(14)
L2236590-13B	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-13C	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-13D	Plastic 2oz unpreserved for TS	A	NA		2.4	Y	Absent		TS(7)
L2236590-13E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		PB-TI(180)
L2236590-13F	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		PA-PAH(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236590-14A	Vial MeOH preserved	A	NA		2.4	Y	Absent		PA-8260HLW(14)
L2236590-14B	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-14C	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-14D	Plastic 2oz unpreserved for TS	A	NA		2.4	Y	Absent		TS(7)
L2236590-14E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		PB-TI(180)
L2236590-14F	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		PA-PAH(14)
L2236590-15A	Vial MeOH preserved	A	NA		2.4	Y	Absent		PA-8260HLW(14)
L2236590-15B	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-15C	Vial water preserved	A	NA		2.4	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-15D	Plastic 2oz unpreserved for TS	A	NA		2.4	Y	Absent		TS(7)
L2236590-15E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.4	Y	Absent		PB-TI(180)
L2236590-15F	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		PA-PAH(14)
L2236590-16A	Vial MeOH preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-16B	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-16C	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-16D	Plastic 2oz unpreserved for TS	B	NA		5.8	Y	Absent		TS(7)
L2236590-16E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PB-TI(180)
L2236590-16F	Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-16G	Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-17A	Vial MeOH preserved	B	NA		5.8	Y	Absent		PA-8260HLW(14)
L2236590-17B	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 13:43	PA-8260HLW(14)
L2236590-17C	Vial water preserved	B	NA		5.8	Y	Absent	09-JUL-22 12:49	PA-8260HLW(14)
L2236590-17D	Plastic 2oz unpreserved for TS	B	NA		5.8	Y	Absent		TS(7)
L2236590-17E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		5.8	Y	Absent		PB-TI(180)
L2236590-17F	Glass 120ml/4oz unpreserved	B	NA		5.8	Y	Absent		PA-PAH(14)
L2236590-18A	Vial HCl preserved	A	NA		2.4	Y	Absent		8011(14),PA-8260(14)
L2236590-18B	Vial HCl preserved	A	NA		2.4	Y	Absent		8011(14),PA-8260(14)
L2236590-18C	Vial HCl preserved	A	NA		2.4	Y	Absent		8011(14),PA-8260(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236590
Report Date: 07/15/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236590-18D	Plastic 250ml HNO3 preserved	A	<2	<2	2.4	Y	Absent		PB-6020T-PPB(180)
L2236590-18E	Amber 250ml unpreserved	A	7	7	2.4	Y	Absent		PA-PAHSIM-LVI(7)
L2236590-18F	Amber 250ml unpreserved	A	7	7	2.4	Y	Absent		PA-PAHSIM-LVI(7)
L2236590-19A	Vial HCl preserved	A	NA		2.4	Y	Absent		8011(14),PA-8260(14)
L2236590-19B	Vial HCl preserved	A	NA		2.4	Y	Absent		8011(14),PA-8260(14)
L2236590-19C	Vial HCl preserved	A	NA		2.4	Y	Absent		8011(14),PA-8260(14)
L2236590-19D	Plastic 250ml HNO3 preserved	A	<2	<2	2.4	Y	Absent		PB-6020T-PPB(180)
L2236590-19E	Amber 250ml unpreserved	A	7	7	2.4	Y	Absent		PA-PAHSIM-LVI(7)
L2236590-19F	Amber 250ml unpreserved	A	7	7	2.4	Y	Absent		PA-PAHSIM-LVI(7)
L2236590-20A	Vial HCl preserved	B	NA		5.8	Y	Absent		8011(14),PA-8260(14)
L2236590-20B	Vial HCl preserved	B	NA		5.8	Y	Absent		8011(14),PA-8260(14)
L2236590-20C	Vial Na2S2O3 preserved	NA	NA			Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236590
Project Number:	200.00135.006	**Report Date:**	07/15/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236590
Project Number:	200.00135.006	**Report Date:**	07/15/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236590
Project Number:	200.00135.006	**Report Date:**	07/15/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236590
Project Number:	200.00135.006	**Report Date:**	07/15/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 7/9/22

ALPHA Job #: L2236590

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program: Criteria

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Shortlist 1-5												Sample Specific Comments
36590-01	PB-840-01-SS01	7/8	0945	S	TS	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
02	PB-840-02-SS01		0950			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
03	PB-840-03-SS01		1000			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
04	PB-840-04-SS01		1010			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
05	PB-840-05-SS01		1020			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
06	PB-840-06-SS01		1030			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
07	PB-840-07-SS01		1040			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
08	PB-840-08-SS01		1120			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
09	PB-840-09-SS01		1130			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
10	PB-840-10-SS01		1140			☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
	Container Type					-	-	G	-	-	-	-	-	-	-	-	-	
	Preservative					-	-	-	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
	7/8 1540		7/8/22 1540
	7/8/22 1810		7/8/22 1810
	7/8/22 2107		7/8/22 2100
of AAL	7/9/22 0050	of AAL	7/8/22, 2336

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-07(LN-I) (rev. 3-MAY-12)

2

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 7/9/22

ALPHA Job #: L2236590

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com
☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SHORTLIST 1-5
VOC PORTION OF SL 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36590-11	PB-840-11-5501	7/8	1200	S	TS	
12	PB-840-12-5501		1210	S		
13	PB-840-13-5501		1220	S		
14	PB-840-14-5501		1230	S		
15	PB-840-15-5501		1240	S		
16	PB-840-16-5501		1250	S		
17	DUP-38		-	S		
18	FB-070822-3		1300	W		
19	FB-070822-4		1310	W		
20	TB-070822	↓	-	W	↓	

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/8/22 1540		7/8/22 1540
	7/8/22 1600		7/8 1600
	7/8/22 2100		7/8/22 2100
ALL AAL	7/9/22 0850	AAL	7/9/22 2310

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

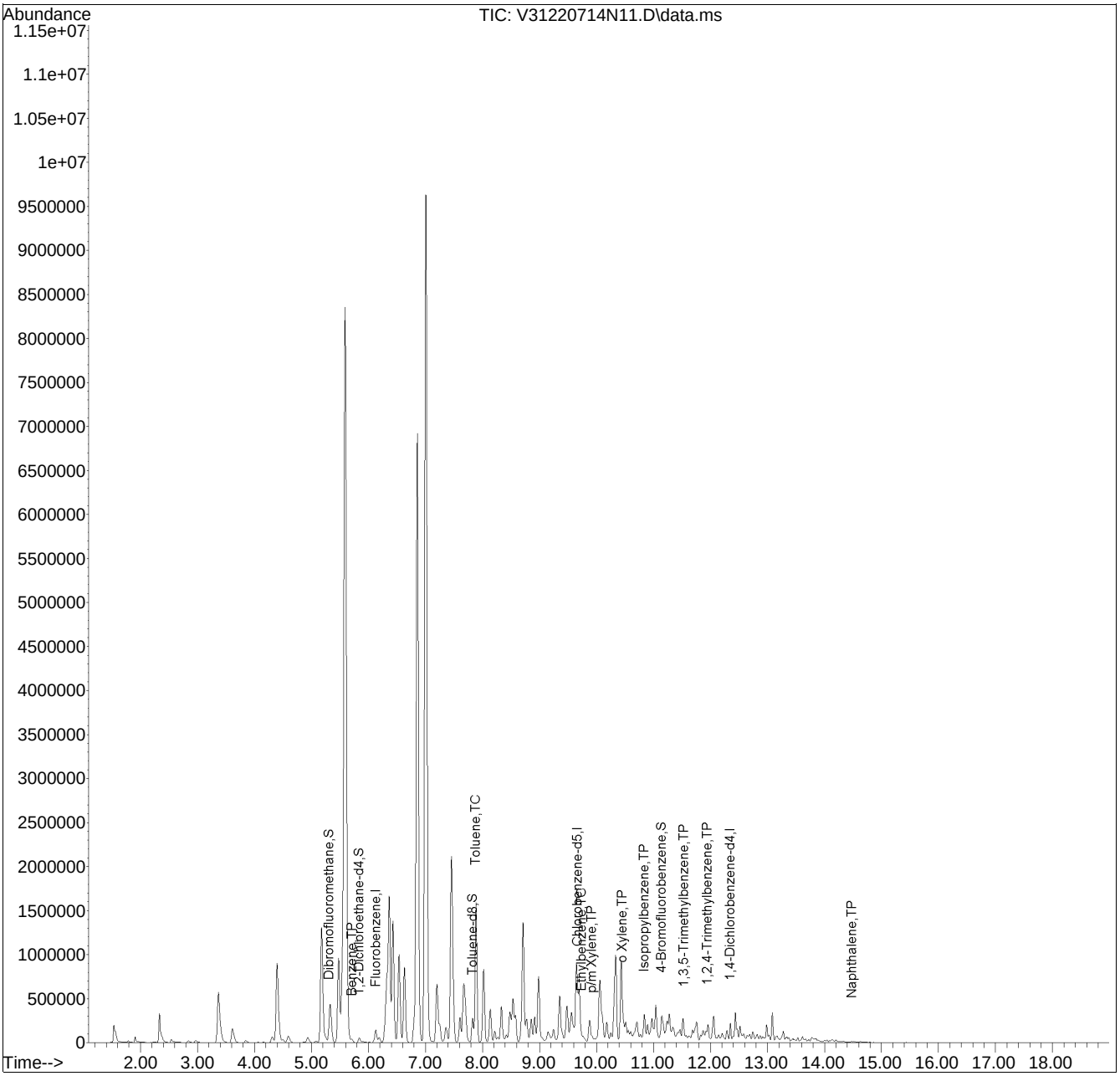
FORM NO. 01-01(R-M) (rev. 3-MAR-12)

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA131\2022\220714N\
Data File : V31220714N11.D
Acq On : 14 Jul 2022 10:51 pm
Operator : VOA131:MKS
Sample : l2236590-01,31,3.76,5,,b,r2f
Misc : WG1663272,ICAL19050
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 15 08:04:31 2022
Quant Method : I:\VOLATILES\VOA131\2022\220714N\V31_220525N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue May 31 11:11:48 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list14N\V31220714N01.D•



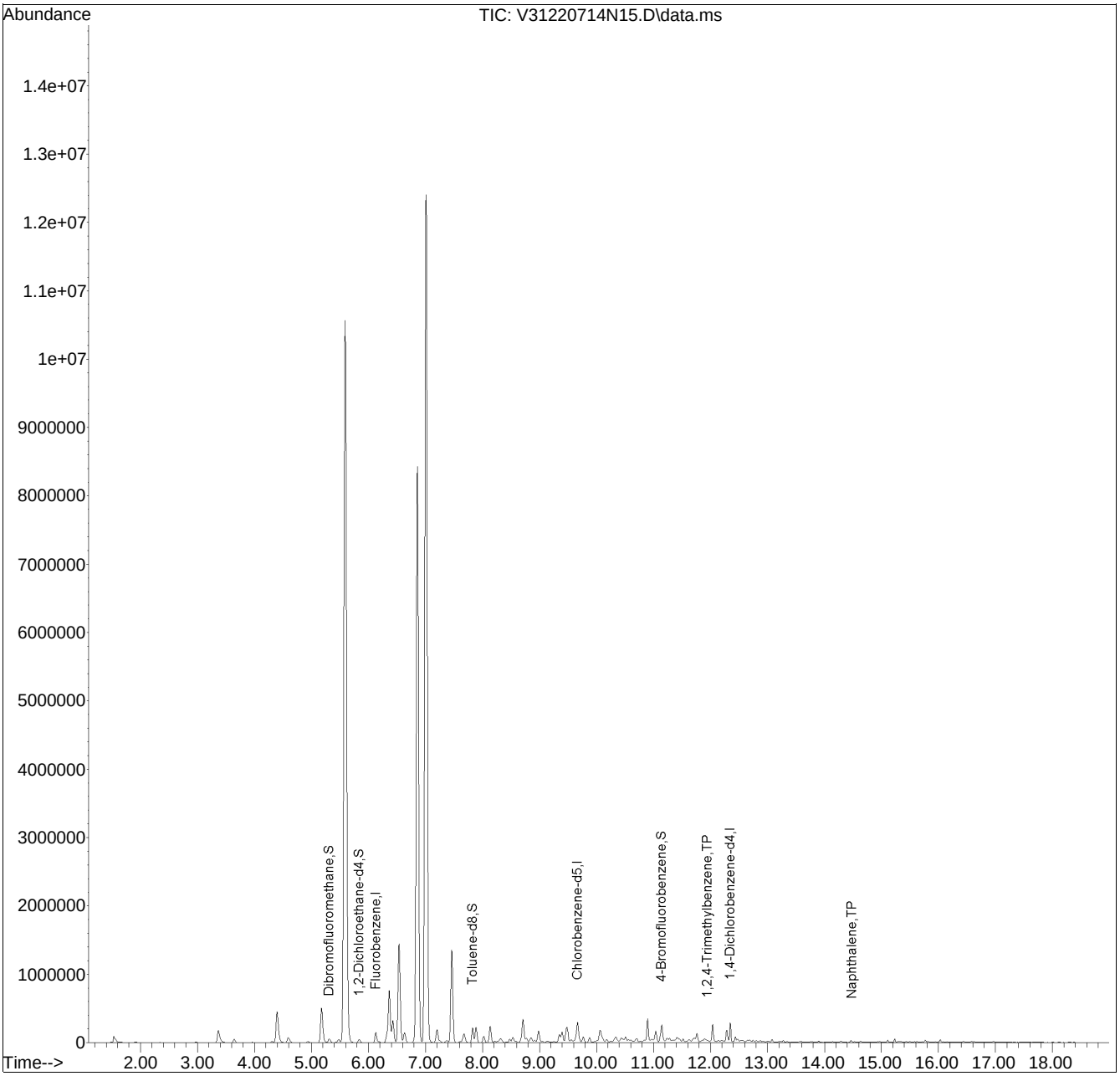
V31_220525N_8260.m Fri Jul 15 08:52:06 2022 Page: 2

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA131\2022\220714N\
Data File : V31220714N15.D
Acq On : 15 Jul 2022 12:22 am
Operator : VOA131:MKS
Sample : l2236590-15,31,4.91,5,,b,r2f
Misc : WG1663272,ICAL19050
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 15 08:05:32 2022
Quant Method : I:\VOLATILES\VOA131\2022\220714N\V31_220525N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue May 31 11:11:48 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list14N\V31220714N01.D•



ANALYTICAL REPORT

Lab Number:	L2236779
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/18/22

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Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2236779-01	PB-848-01-SS01	SOIL	PHILADELPHIA, PA	07/11/22 09:00	07/11/22
L2236779-02	PB-848-02-SS01	SOIL	PHILADELPHIA, PA	07/11/22 09:10	07/11/22
L2236779-03	PB-848-03-SS01	SOIL	PHILADELPHIA, PA	07/11/22 09:20	07/11/22
L2236779-04	PB-848-04-SS01	SOIL	PHILADELPHIA, PA	07/11/22 09:30	07/11/22
L2236779-05	PB-848-05-SS01	SOIL	PHILADELPHIA, PA	07/11/22 09:40	07/11/22
L2236779-06	PB-848-06-SS01	SOIL	PHILADELPHIA, PA	07/11/22 09:50	07/11/22
L2236779-07	PB-848-07-SS01	SOIL	PHILADELPHIA, PA	07/11/22 10:00	07/11/22
L2236779-08	PB-848-08-SS01	SOIL	PHILADELPHIA, PA	07/11/22 10:10	07/11/22
L2236779-09	PB-848-09-SS01	SOIL	PHILADELPHIA, PA	07/11/22 10:20	07/11/22
L2236779-10	PB-848-10-SS01	SOIL	PHILADELPHIA, PA	07/11/22 10:30	07/11/22
L2236779-11	PB-848-11-SS01	SOIL	PHILADELPHIA, PA	07/11/22 10:40	07/11/22
L2236779-12	PB-848-12-SS01	SOIL	PHILADELPHIA, PA	07/11/22 10:50	07/11/22
L2236779-13	PB-848-13-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:00	07/11/22
L2236779-14	PB-848-14-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:10	07/11/22
L2236779-15	PB-848-15-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:20	07/11/22
L2236779-16	PB-848-16-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:30	07/11/22
L2236779-17	PB-848-17-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:40	07/11/22
L2236779-18	PB-848-18-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:50	07/11/22
L2236779-19	FB-071122-1	WATER	PHILADELPHIA, PA	07/11/22 14:00	07/11/22
L2236779-20	FB-071122-2	WATER	PHILADELPHIA, PA	07/11/22 14:05	07/11/22
L2236779-21	DUP-39	SOIL	PHILADELPHIA, PA	07/11/22 00:00	07/11/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236779
Project Number:	200.00135.006	**Report Date:**	07/18/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236779
Project Number:	200.00135.006	**Report Date:**	07/18/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2236779-04D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

L2236779-04D: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (144%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236779-06: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (211%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236779-07: The sample was analyzed as a High Level Methanol based upon screen results. The sample was then analyzed as a Low Level in order to achieve lower reporting limits. The results of both analyses are reported. Differences were noted between the results of the analyses which have been attributed to vial discrepancies.

L2236779-07(Low): The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (138%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236779-09: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (139%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236779-11: The sample was analyzed as a High Level Methanol based upon screen results. The sample was then analyzed as a Low Level in order to achieve lower reporting limits. The results of both analyses are reported. Differences were noted between the results of the analyses which have been attributed to vial discrepancies.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236779
Project Number:	200.00135.006	**Report Date:**	07/18/22

Case Narrative (continued)

L2236779-11: The internal standard (IS) response(s) for fluorobenzene (223%) was above the acceptance criteria due to obvious interferences. A copy of the chromatogram is included as an attachment to this report. Since the IS response was above method criteria all associated compounds are considered to have a potentially low bias.
L2236779-11: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (199%); however, low-level re-analysis was not performed due to obvious interferences. A copy of the chromatogram is included as an attachment to this report. A high-level analysis was performed, and those results are also reported.
L2236779-11: The surrogate recovery is outside the method acceptance criteria for dibromofluoromethane (56%) due to interference with the Internal Standard.
L2236779-13: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of non-target compounds in the sample.
L2236779-13: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (153%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.
L2236779-15: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (138%); due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.
L2236779-18: The internal standard (IS) response(s) for fluorobenzene (422%) and the surrogate recoveries for dibromofluoromethane (27%) and 4-bromofluorobenzene (262%) were outside the acceptance criteria due to obvious interferences. A copy of the chromatogram is included as an attachment to this report. Since the IS response was above method criteria, all associated compounds are considered to have a potentially low bias. A high-level analysis was performed, and those results are also reported.

Total Metals
L2236779-02, -03, -05, -07, -08, -10 and -18: The sample has an elevated detection limit for lead due to the dilution required by matrix interferences encountered during analysis.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236779
Project Number:	200.00135.006	**Report Date:**	07/18/22

Case Narrative (continued)

The WG1661857-3 MS recovery, performed on L2236779-01, is outside the acceptance criteria for lead (74%). A post digestion spike was performed and yielded an unacceptable recovery for lead (69%). The serial dilution recovery was not applicable; therefore, this element fails the matrix test and the result reported in the native sample should be considered estimated.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Caitlin Walukevich

Title: Technical Director/Representative

Date: 07/18/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-01
Client ID: PB-848-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 09:41
Analyst: MKS
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	0.0010		mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00063	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	0.0010	J	mg/kg	0.0023	0.00065	1
o-Xylene	0.00055	J	mg/kg	0.0012	0.00034	1
Xylenes, Total	0.0016	J	mg/kg	0.0012	0.00034	1
Isopropylbenzene	0.00014	J	mg/kg	0.0012	0.00012	1
1,3,5-Trimethylbenzene	0.00026	J	mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-02
Client ID: PB-848-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 11:06
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00047	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00094	0.00024	1
Toluene	ND		mg/kg	0.00094	0.00051	1
1,2-Dibromoethane	ND		mg/kg	0.00047	0.00027	1
Ethylbenzene	ND		mg/kg	0.00094	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00052	1
o-Xylene	ND		mg/kg	0.00094	0.00027	1
Xylenes, Total	ND		mg/kg	0.00094	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00094	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-03
Client ID: PB-848-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 09:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 11:35
Analyst: JC
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-04 D
Client ID: PB-848-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 12:04
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.51	0.051	4
Benzene	1.8		mg/kg	0.13	0.042	4
1,2-Dichloroethane	ND		mg/kg	0.25	0.065	4
Toluene	ND		mg/kg	0.25	0.14	4
1,2-Dibromoethane	ND		mg/kg	0.13	0.074	4
Ethylbenzene	0.90		mg/kg	0.25	0.036	4
p/m-Xylene	3.5		mg/kg	0.51	0.14	4
o-Xylene	0.32		mg/kg	0.25	0.074	4
Xylenes, Total	3.8		mg/kg	0.25	0.074	4
Isopropylbenzene	0.46		mg/kg	0.25	0.028	4
1,3,5-Trimethylbenzene	2.7		mg/kg	0.51	0.049	4
1,2,4-Trimethylbenzene	4.3		mg/kg	0.51	0.085	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	**144**	Q	70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-05
Client ID: PB-848-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 09:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 12:33
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00074	J	mg/kg	0.0022	0.00023	1
Benzene	ND		mg/kg	0.00056	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00061	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00063	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-06
Client ID: PB-848-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 09:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 15:28
Analyst: LAC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.013	1
Benzene	ND		mg/kg	0.032	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.064	0.016	1
Toluene	ND		mg/kg	0.064	0.035	1
1,2-Dibromoethane	ND		mg/kg	0.032	0.019	1
Ethylbenzene	1.0		mg/kg	0.064	0.0090	1
p/m-Xylene	ND		mg/kg	0.13	0.036	1
o-Xylene	ND		mg/kg	0.064	0.019	1
Xylenes, Total	ND		mg/kg	0.064	0.019	1
Isopropylbenzene	3.0		mg/kg	0.064	0.0070	1
1,3,5-Trimethylbenzene	0.16		mg/kg	0.13	0.012	1
1,2,4-Trimethylbenzene	31.	E	mg/kg	0.13	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	**211**	Q	70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-06 D
Client ID: PB-848-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 13:02
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
1,2,4-Trimethylbenzene	35.		mg/kg	1.3	0.21	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	125		70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-07
Client ID: PB-848-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 15:55
Analyst: LAC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.014	1
Benzene	0.14		mg/kg	0.034	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.067	0.017	1
Toluene	0.087		mg/kg	0.067	0.036	1
1,2-Dibromoethane	ND		mg/kg	0.034	0.020	1
Ethylbenzene	1.6		mg/kg	0.067	0.0095	1
p/m-Xylene	0.53		mg/kg	0.13	0.038	1
o-Xylene	0.032	J	mg/kg	0.067	0.020	1
Xylenes, Total	0.56	J	mg/kg	0.067	0.020	1
Isopropylbenzene	1.1		mg/kg	0.067	0.0073	1
1,3,5-Trimethylbenzene	1.0		mg/kg	0.13	0.013	1
1,2,4-Trimethylbenzene	2.2		mg/kg	0.13	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-07
Client ID: PB-848-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 09:20
Analyst: MKS
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00055	J	mg/kg	0.0018	0.00018	1
Benzene	0.016		mg/kg	0.00044	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00089	0.00023	1
Toluene	0.0027		mg/kg	0.00089	0.00048	1
1,2-Dibromoethane	ND		mg/kg	0.00044	0.00026	1
Ethylbenzene	0.19		mg/kg	0.00089	0.00012	1
p/m-Xylene	0.033		mg/kg	0.0018	0.00050	1
o-Xylene	0.0021		mg/kg	0.00089	0.00026	1
Xylenes, Total	0.035		mg/kg	0.00089	0.00026	1
Isopropylbenzene	0.11		mg/kg	0.00089	0.00009	1
1,3,5-Trimethylbenzene	0.089		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	0.19		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	75		70-130
Toluene-d8	124		70-130
4-Bromofluorobenzene	**138**	Q	70-130
Dibromofluoromethane	85		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-08
Client ID: PB-848-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 14:10
Analyst: LAC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	0.00030	J	mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00092	0.00024	1
Toluene	ND		mg/kg	0.00092	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	0.0067		mg/kg	0.00092	0.00013	1
p/m-Xylene	0.00093	J	mg/kg	0.0018	0.00052	1
o-Xylene	0.00040	J	mg/kg	0.00092	0.00027	1
Xylenes, Total	0.0013	J	mg/kg	0.00092	0.00027	1
Isopropylbenzene	0.0099		mg/kg	0.00092	0.00010	1
1,3,5-Trimethylbenzene	0.0047		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	0.037		mg/kg	0.0018	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-09
Client ID: PB-848-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 14:36
Analyst: LAC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	0.00022	J	mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	0.00046	J	mg/kg	0.00098	0.00014	1
p/m-Xylene	0.00064	J	mg/kg	0.0020	0.00055	1
o-Xylene	0.00029	J	mg/kg	0.00098	0.00029	1
Xylenes, Total	0.00093	J	mg/kg	0.00098	0.00029	1
Isopropylbenzene	0.0011		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	0.00028	J	mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	0.0013	J	mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	**139**	Q	70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-10
Client ID: PB-848-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 14:59
Analyst: JC
Percent Solids: 72%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0025	0.00025	1
Benzene	0.00052	J	mg/kg	0.00063	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00032	1
Toluene	ND		mg/kg	0.0012	0.00068	1
1,2-Dibromoethane	ND		mg/kg	0.00063	0.00037	1
Ethylbenzene	0.0024		mg/kg	0.0012	0.00018	1
p/m-Xylene	ND		mg/kg	0.0025	0.00070	1
o-Xylene	ND		mg/kg	0.0012	0.00037	1
Xylenes, Total	ND		mg/kg	0.0012	0.00037	1
Isopropylbenzene	0.0066		mg/kg	0.0012	0.00014	1
1,3,5-Trimethylbenzene	0.00047	J	mg/kg	0.0025	0.00024	1
1,2,4-Trimethylbenzene	0.00081	J	mg/kg	0.0025	0.00042	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-11
Client ID: PB-848-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 15:29
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.14	0.014	1
Benzene	0.87		mg/kg	0.034	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.068	0.017	1
Toluene	0.12		mg/kg	0.068	0.037	1
1,2-Dibromoethane	ND		mg/kg	0.034	0.020	1
Ethylbenzene	0.16		mg/kg	0.068	0.0095	1
p/m-Xylene	0.36		mg/kg	0.14	0.038	1
o-Xylene	0.034	J	mg/kg	0.068	0.020	1
Xylenes, Total	0.39	J	mg/kg	0.068	0.020	1
Isopropylbenzene	0.29		mg/kg	0.068	0.0074	1
1,3,5-Trimethylbenzene	0.076	J	mg/kg	0.14	0.013	1
1,2,4-Trimethylbenzene	0.12	J	mg/kg	0.14	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	125		70-130
Dibromofluoromethane	87		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-11
Client ID: PB-848-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 15:02
Analyst: LAC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0027	0.00027	1
Benzene	0.0039		mg/kg	0.00068	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0014	0.00035	1
Toluene	0.0059		mg/kg	0.0014	0.00074	1
1,2-Dibromoethane	ND		mg/kg	0.00068	0.00040	1
Ethylbenzene	0.0015		mg/kg	0.0014	0.00019	1
p/m-Xylene	0.018		mg/kg	0.0027	0.00076	1
o-Xylene	0.0043		mg/kg	0.0014	0.00039	1
Xylenes, Total	0.022		mg/kg	0.0014	0.00039	1
Isopropylbenzene	0.14		mg/kg	0.0014	0.00015	1
1,3,5-Trimethylbenzene	0.0018	J	mg/kg	0.0027	0.00026	1
1,2,4-Trimethylbenzene	0.0038		mg/kg	0.0027	0.00045	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	123		70-130
4-Bromofluorobenzene	**199**	Q	70-130
Dibromofluoromethane	**56**	Q	70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-12
Client ID: PB-848-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 13:43
Analyst: LAC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-13
Client ID: PB-848-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 16:28
Analyst: JC
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.14	0.014	1
Benzene	ND		mg/kg	0.036	0.012	1
1,2-Dichloroethane	ND		mg/kg	0.072	0.018	1
Toluene	0.039	J	mg/kg	0.072	0.039	1
1,2-Dibromoethane	ND		mg/kg	0.036	0.021	1
Ethylbenzene	0.018	J	mg/kg	0.072	0.010	1
p/m-Xylene	ND		mg/kg	0.14	0.040	1
o-Xylene	ND		mg/kg	0.072	0.021	1
Xylenes, Total	ND		mg/kg	0.072	0.021	1
Isopropylbenzene	0.010	J	mg/kg	0.072	0.0078	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.14	0.014	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.14	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	114		70-130
4-Bromofluorobenzene	**153**	Q	70-130
Dibromofluoromethane	89		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-14
Client ID: PB-848-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 16:56
Analyst: JC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	0.00019	J	mg/kg	0.00056	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00061	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	0.00017	J	mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00063	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	0.00079	J	mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-15
Client ID: PB-848-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 16:21
Analyst: LAC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.11	0.011	1
Benzene	1.1		mg/kg	0.028	0.0092	1
1,2-Dichloroethane	ND		mg/kg	0.055	0.014	1
Toluene	0.078		mg/kg	0.055	0.030	1
1,2-Dibromoethane	ND		mg/kg	0.028	0.016	1
Ethylbenzene	16.		mg/kg	0.055	0.0078	1
p/m-Xylene	34.	E	mg/kg	0.11	0.031	1
o-Xylene	0.038	J	mg/kg	0.055	0.016	1
Isopropylbenzene	2.4		mg/kg	0.055	0.0060	1
1,3,5-Trimethylbenzene	4.0		mg/kg	0.11	0.011	1
1,2,4-Trimethylbenzene	7.7		mg/kg	0.11	0.018	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	115		70-130
4-Bromofluorobenzene	**138**	Q	70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-15 D
Client ID: PB-848-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 17:25
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
p/m-Xylene	38.		mg/kg	2.2	0.62	20
Xylenes, Total	38.	J	mg/kg	0.055	0.016	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	114		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	91		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-16
Client ID: PB-848-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 17:54
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00060	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00066	1
1,2-Dibromoethane	ND		mg/kg	0.00060	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00068	1
o-Xylene	ND		mg/kg	0.0012	0.00035	1
Xylenes, Total	ND		mg/kg	0.0012	0.00035	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00040	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-17
Client ID: PB-848-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 18:22
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0031	0.00031	1
Benzene	ND		mg/kg	0.00077	0.00026	1
1,2-Dichloroethane	ND		mg/kg	0.0015	0.00040	1
Toluene	ND		mg/kg	0.0015	0.00084	1
1,2-Dibromoethane	ND		mg/kg	0.00077	0.00045	1
Ethylbenzene	ND		mg/kg	0.0015	0.00022	1
p/m-Xylene	ND		mg/kg	0.0031	0.00087	1
o-Xylene	ND		mg/kg	0.0015	0.00045	1
Xylenes, Total	ND		mg/kg	0.0015	0.00045	1
Isopropylbenzene	ND		mg/kg	0.0015	0.00017	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0031	0.00030	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0031	0.00052	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-18
Client ID: PB-848-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 13:17
Analyst: LAC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	0.00091		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	0.0043		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	0.0057		mg/kg	0.0010	0.00014	1
p/m-Xylene	0.026		mg/kg	0.0020	0.00057	1
o-Xylene	0.0084		mg/kg	0.0010	0.00030	1
Xylenes, Total	0.034		mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.037		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	0.0051		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	0.030		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	71		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	**262**	Q	70-130
Dibromofluoromethane	**27**	Q	70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-18
Client ID: PB-848-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 10:54
Analyst: MKS
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.11	0.011	1
Benzene	0.010	J	mg/kg	0.027	0.0089	1
1,2-Dichloroethane	ND		mg/kg	0.054	0.014	1
Toluene	ND		mg/kg	0.054	0.029	1
1,2-Dibromoethane	ND		mg/kg	0.027	0.016	1
Ethylbenzene	0.017	J	mg/kg	0.054	0.0076	1
p/m-Xylene	0.056	J	mg/kg	0.11	0.030	1
o-Xylene	ND		mg/kg	0.054	0.016	1
Xylenes, Total	0.056	J	mg/kg	0.054	0.016	1
Isopropylbenzene	0.060		mg/kg	0.054	0.0058	1
1,3,5-Trimethylbenzene	0.011	J	mg/kg	0.11	0.010	1
1,2,4-Trimethylbenzene	0.058	J	mg/kg	0.11	0.018	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	76		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	87		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-19
Client ID: FB-071122-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 16:46
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-19
Client ID: FB-071122-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 14:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/13/22 21:45
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	121		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	130		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-20
Client ID: FB-071122-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:05
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 16:53
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-20
Client ID: FB-071122-2
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 14:05
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/13/22 22:11
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	124		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	130		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-21
Client ID: DUP-39
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 12:50
Analyst: LAC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00057	J	mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00098	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00028	1
Xylenes, Total	ND		mg/kg	0.00098	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/13/22 14:45
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 19-20 Batch: WG1662273-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/14/22 09:12
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 04,06,11,13,15 Batch: WG1662882-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/13/22 17:26
Analyst: TMS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 19-20 Batch: WG1663309-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	119		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/14/22 09:12
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-03,05,10,14,16-17 Batch: WG1663423-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 11:31
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 06-07,15 Batch: WG1663910-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 11:31
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 08-09,11-12,18,21 Batch: WG1663911-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/18/22 08:56
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 07 Batch: WG1664169-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	86		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/18/22 08:56
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 18 Batch: WG1664170-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	86		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	99		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236779

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 19-20 Batch: WG1662273-2								
1,2-Dibromoethane	110		-		80-120	-		20	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 04,06,11,13,15 Batch: WG1662882-3 WG1662882-4								
Methyl tert butyl ether	118		118		66-130	0		30
Benzene	106		109		70-130	3		30
1,2-Dichloroethane	100		101		70-130	1		30
Toluene	108		108		70-130	0		30
1,2-Dibromoethane	108		108		70-130	0		30
Ethylbenzene	106		107		70-130	1		30
p/m-Xylene	106		107		70-130	1		30
o-Xylene	106		108		70-130	2		30
Isopropylbenzene	113		112		70-130	1		30
1,3,5-Trimethylbenzene	109		108		70-130	1		30
1,2,4-Trimethylbenzene	110		109		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	103		102		70-130
4-Bromofluorobenzene	109		107		70-130
Dibromofluoromethane	92		92		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236779

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 19-20 Batch: WG1663309-3 WG1663309-4								
Methyl tert butyl ether	95		97		63-130	2		20
Benzene	98		100		70-130	2		20
1,2-Dichloroethane	100		100		70-130	0		20
Toluene	95		96		70-130	1		20
Ethylbenzene	94		96		70-130	2		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
Isopropylbenzene	88		92		70-130	4		20
1,3,5-Trimethylbenzene	91		95		64-130	4		20
1,2,4-Trimethylbenzene	90		94		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		105		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	102		94		70-130
Dibromofluoromethane	102		104		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-03,05,10,14,16-17 Batch: WG1663423-3 WG1663423-4								
Methyl tert butyl ether	118		118		66-130	0		30
Benzene	106		109		70-130	3		30
1,2-Dichloroethane	100		101		70-130	1		30
Toluene	108		108		70-130	0		30
1,2-Dibromoethane	108		108		70-130	0		30
Ethylbenzene	106		107		70-130	1		30
p/m-Xylene	106		107		70-130	1		30
o-Xylene	106		108		70-130	2		30
Isopropylbenzene	113		112		70-130	1		30
1,3,5-Trimethylbenzene	109		108		70-130	1		30
1,2,4-Trimethylbenzene	110		109		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	103		102		70-130
4-Bromofluorobenzene	109		107		70-130
Dibromofluoromethane	91		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 06-07,15 Batch: WG1663910-3 WG1663910-4								
Methyl tert butyl ether	84		81		66-130	4		30
Benzene	84		79		70-130	6		30
1,2-Dichloroethane	84		81		70-130	4		30
Toluene	84		79		70-130	6		30
1,2-Dibromoethane	92		87		70-130	6		30
Ethylbenzene	84		79		70-130	6		30
p/m-Xylene	89		83		70-130	7		30
o-Xylene	87		83		70-130	5		30
Isopropylbenzene	82		78		70-130	5		30
1,3,5-Trimethylbenzene	82		79		70-130	4		30
1,2,4-Trimethylbenzene	81		78		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		99		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	83		84		70-130
Dibromofluoromethane	106		103		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236779

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 08-09,11-12,18,21 Batch: WG1663911-3 WG1663911-4								
Methyl tert butyl ether	84		81		66-130	4		30
Benzene	84		79		70-130	6		30
1,2-Dichloroethane	84		81		70-130	4		30
Toluene	84		79		70-130	6		30
1,2-Dibromoethane	92		87		70-130	6		30
Ethylbenzene	84		79		70-130	6		30
p/m-Xylene	89		83		70-130	7		30
o-Xylene	87		83		70-130	5		30
Isopropylbenzene	82		78		70-130	5		30
1,3,5-Trimethylbenzene	82		79		70-130	4		30
1,2,4-Trimethylbenzene	81		78		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		99		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	83		83		70-130
Dibromofluoromethane	106		103		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 07 Batch: WG1664169-3 WG1664169-4								
Methyl tert butyl ether	103		90		66-130	13		30
Benzene	91		87		70-130	4		30
1,2-Dichloroethane	**69**	Q	**69**	Q	70-130	0		30
Toluene	90		83		70-130	8		30
1,2-Dibromoethane	94		90		70-130	4		30
Ethylbenzene	88		83		70-130	6		30
p/m-Xylene	91		88		70-130	3		30
o-Xylene	90		87		70-130	3		30
Isopropylbenzene	89		81		70-130	9		30
1,3,5-Trimethylbenzene	88		81		70-130	8		30
1,2,4-Trimethylbenzene	88		82		70-130	7		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	78		78		70-130
Toluene-d8	98		97		70-130
4-Bromofluorobenzene	92		92		70-130
Dibromofluoromethane	93		91		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 18 Batch: WG1664170-3 WG1664170-4								
Methyl tert butyl ether	103		90		66-130	13		30
Benzene	91		87		70-130	4		30
1,2-Dichloroethane	**69**	Q	**69**	Q	70-130	0		30
Toluene	90		83		70-130	8		30
1,2-Dibromoethane	94		90		70-130	4		30
Ethylbenzene	88		83		70-130	6		30
p/m-Xylene	91		88		70-130	3		30
o-Xylene	90		87		70-130	3		30
Isopropylbenzene	89		81		70-130	9		30
1,3,5-Trimethylbenzene	88		81		70-130	8		30
1,2,4-Trimethylbenzene	88		82		70-130	7		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	78		78		70-130
Toluene-d8	98		97		70-130
4-Bromofluorobenzene	92		92		70-130
Dibromofluoromethane	93		91		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-01
Client ID: PB-848-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 12:16
Analyst: CMM
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	93		23-120
2-Fluorobiphenyl	90		30-120
4-Terphenyl-d14	100		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-02
Client ID: PB-848-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 12:40
Analyst: CMM
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.037	1
Pyrene	0.029	J	mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	71		30-120
4-Terphenyl-d14	80		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-03
Client ID: PB-848-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 13:04
Analyst: CMM
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	0.024	J	mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-04
Client ID: PB-848-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 13:29
Analyst: CMM
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	1.4		mg/kg	0.20	0.025	1
Fluorene	2.3		mg/kg	0.20	0.020	1
Phenanthrene	1.9		mg/kg	0.12	0.025	1
Anthracene	0.29		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	63		23-120
2-Fluorobiphenyl	54		30-120
4-Terphenyl-d14	59		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-05
Client ID: PB-848-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 13:53
Analyst: CMM
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.034	J	mg/kg	0.20	0.024	1
Fluorene	0.069	J	mg/kg	0.20	0.019	1
Phenanthrene	0.054	J	mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	76		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-06
Client ID: PB-848-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 09:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 14:17
Analyst: CMM
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	1.7		mg/kg	0.20	0.025	1
Fluorene	0.14	J	mg/kg	0.20	0.020	1
Phenanthrene	0.15		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	78		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-07
Client ID: PB-848-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 14:41
Analyst: CMM
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.26		mg/kg	0.20	0.024	1
Fluorene	0.089	J	mg/kg	0.20	0.019	1
Phenanthrene	0.059	J	mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.025	J	mg/kg	0.12	0.022	1
Chrysene	0.028	J	mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.049	J	mg/kg	0.12	0.033	1
Benzo(a)pyrene	0.065	J	mg/kg	0.16	0.048	1
Benzo(ghi)perylene	0.064	J	mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	91		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	67		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-08
Client ID: PB-848-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 15:05
Analyst: CMM
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	77		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-09
Client ID: PB-848-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 15:30
Analyst: CMM
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	0.034	J	mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	76		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-10
Client ID: PB-848-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 15:54
Analyst: CMM
Percent Solids: 72%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.23	0.028	1
Fluorene	ND		mg/kg	0.23	0.022	1
Phenanthrene	ND		mg/kg	0.14	0.028	1
Anthracene	ND		mg/kg	0.14	0.044	1
Pyrene	ND		mg/kg	0.14	0.022	1
Benzo(a)anthracene	ND		mg/kg	0.14	0.025	1
Chrysene	ND		mg/kg	0.14	0.024	1
Benzo(b)fluoranthene	ND		mg/kg	0.14	0.038	1
Benzo(a)pyrene	ND		mg/kg	0.18	0.055	1
Benzo(ghi)perylene	ND		mg/kg	0.18	0.027	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	74		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-11
Client ID: PB-848-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 16:18
Analyst: CMM
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	0.25		mg/kg	0.19	0.018	1
Phenanthrene	0.35		mg/kg	0.11	0.023	1
Anthracene	0.081	J	mg/kg	0.11	0.037	1
Pyrene	0.058	J	mg/kg	0.11	0.019	1
Benzo(a)anthracene	0.029	J	mg/kg	0.11	0.021	1
Chrysene	0.034	J	mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	0.037	J	mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	0.039	J	mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	118		23-120
2-Fluorobiphenyl	83		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-12
Client ID: PB-848-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 16:42
Analyst: CMM
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.043	J	mg/kg	0.21	0.025	1
Fluorene	0.13	J	mg/kg	0.21	0.020	1
Phenanthrene	0.68		mg/kg	0.12	0.025	1
Anthracene	0.19		mg/kg	0.12	0.040	1
Pyrene	0.51		mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.33		mg/kg	0.12	0.023	1
Chrysene	0.30		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	0.36		mg/kg	0.12	0.035	1
Benzo(a)pyrene	0.30		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	0.11	J	mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	69		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-13
Client ID: PB-848-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 17:07
Analyst: CMM
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 23:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	0.022	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.035	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	68		30-120
4-Terphenyl-d14	71		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-14
Client ID: PB-848-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 17:31
Analyst: CMM
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 23:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.21	0.025	1
Fluorene	ND		mg/kg	0.21	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.035	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	53		23-120
2-Fluorobiphenyl	60		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-15
Client ID: PB-848-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 17:55
Analyst: CMM
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 23:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	81		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-16
Client ID: PB-848-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 18:19
Analyst: CMM
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 23:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	67		30-120
4-Terphenyl-d14	70		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-17
Client ID: PB-848-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 18:43
Analyst: CMM
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 23:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.026	J	mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	0.34		mg/kg	0.12	0.024	1
Anthracene	0.090	J	mg/kg	0.12	0.038	1
Pyrene	0.79		mg/kg	0.12	0.019	1
Benzo(a)anthracene	4.5		mg/kg	0.12	0.022	1
Chrysene	4.4		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	4.4		mg/kg	0.12	0.033	1
Benzo(a)pyrene	7.2		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	5.2		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	85		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-18
Client ID: PB-848-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 19:08
Analyst: CMM
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 23:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-19
Client ID: FB-071122-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/13/22 12:21
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/12/22 15:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	0.04	J	ug/l	0.05	0.02	1
Anthracene	0.02	J	ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	32		23-120
2-Fluorobiphenyl	28		15-120
4-Terphenyl-d14	**32**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-20
Client ID: FB-071122-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:05
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/13/22 12:38
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/12/22 15:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.05	J	ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	42		23-120
2-Fluorobiphenyl	44		15-120
4-Terphenyl-d14	47		41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-21
Client ID: DUP-39
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 19:32
Analyst: CMM
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 23:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	0.091	J	mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	0.080	J	mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.055	J	mg/kg	0.12	0.022	1
Chrysene	0.048	J	mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.053	J	mg/kg	0.12	0.033	1
Benzo(a)pyrene	0.048	J	mg/kg	0.16	0.048	1
Benzo(ghi)perylene	0.026	J	mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	58		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/13/22 11:32
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/12/22 15:44

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 19-20 Batch: WG1661883-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	0.03	J	ug/l	0.05	0.02
Anthracene	0.02	J	ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	0.03	J	ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	38		23-120
2-Fluorobiphenyl	39		15-120
4-Terphenyl-d14	46		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/13/22 11:03
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 07/12/22 20:01

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-18,21 Batch: WG1662002-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	82		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 19-20 Batch: WG1661883-2 WG1661883-3								
Naphthalene	50		123		40-140	**84**	Q	40
Fluorene	51		125		40-140	**84**	Q	40
Phenanthrene	50		123		40-140	**84**	Q	40
Anthracene	50		123		40-140	**84**	Q	40
Pyrene	51		**129**	Q	26-127	**87**	Q	40
Benzo(a)anthracene	48		123		40-140	**88**	Q	40
Chrysene	49		124		40-140	**87**	Q	40
Benzo(b)fluoranthene	52		138		40-140	**91**	Q	40
Benzo(a)pyrene	49		134		40-140	**93**	Q	40
Benzo(ghi)perylene	52		137		40-140	**90**	Q	40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	24		28		23-120
2-Fluorobiphenyl	25		30		15-120
4-Terphenyl-d14	**26**	Q	**32**	Q	41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236779

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-18,21 Batch: WG1662002-2 WG1662002-3								
Naphthalene	63		66		40-140	5		50
Fluorene	66		68		40-140	3		50
Phenanthrene	65		69		40-140	6		50
Anthracene	68		73		40-140	7		50
Pyrene	67		71		35-142	6		50
Benzo(a)anthracene	69		75		40-140	8		50
Chrysene	69		76		40-140	10		50
Benzo(b)fluoranthene	70		76		40-140	8		50
Benzo(a)pyrene	76		81		40-140	6		50
Benzo(ghi)perylene	68		74		40-140	8		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	66		70		23-120
2-Fluorobiphenyl	63		65		30-120
4-Terphenyl-d14	68		71		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-01
Client ID: PB-848-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 09:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.75		mg/kg	2.41	0.129	1	07/13/22 06:00	07/16/22 19:12	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-02
Client ID: PB-848-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 09:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	26.2		mg/kg	4.38	0.235	2	07/13/22 06:00	07/18/22 16:25	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-03
Client ID: PB-848-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 09:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	51.6		mg/kg	4.24	0.227	2	07/13/22 06:00	07/17/22 12:00	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-04
Client ID: PB-848-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 09:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	716		mg/kg	2.44	0.130	1	07/13/22 06:00	07/16/22 19:52	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-05
Client ID: PB-848-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 09:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	8.21		mg/kg	4.59	0.246	2	07/13/22 06:00	07/17/22 12:05	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-06
Client ID: PB-848-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 09:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.20		mg/kg	2.39	0.128	1	07/13/22 06:00	07/16/22 20:02	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-07
Client ID: PB-848-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3200		mg/kg	4.73	0.253	2	07/13/22 06:00	07/17/22 12:10	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-08
Client ID: PB-848-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	246		mg/kg	4.70	0.252	2	07/13/22 06:00	07/17/22 12:15	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-09
Client ID: PB-848-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1140		mg/kg	2.41	0.129	1	07/13/22 06:00	07/16/22 20:17	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-10
Client ID: PB-848-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 72%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	721		mg/kg	5.48	0.294	2	07/13/22 06:00	07/17/22 12:20	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-11
Client ID: PB-848-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	15.0		mg/kg	2.24	0.120	1	07/13/22 06:00	07/16/22 20:27	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-12
Client ID: PB-848-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	282		mg/kg	2.36	0.126	1	07/13/22 06:00	07/16/22 20:32	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-13
Client ID: PB-848-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	28.5		mg/kg	2.46	0.132	1	07/13/22 06:00	07/16/22 20:48	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-14
Client ID: PB-848-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	15.7		mg/kg	2.42	0.130	1	07/13/22 06:00	07/16/22 20:53	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-15
Client ID: PB-848-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	9.28		mg/kg	2.29	0.123	1	07/13/22 06:00	07/16/22 20:58	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-16
Client ID: PB-848-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.41		mg/kg	2.32	0.124	1	07/13/22 06:00	07/16/22 21:03	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-17
Client ID: PB-848-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:40
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1840		mg/kg	2.29	0.122	1	07/13/22 06:00	07/16/22 21:08	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-18
Client ID: PB-848-18-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	60.7		mg/kg	11.4	0.609	5	07/13/22 06:00	07/17/22 13:08	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-19
Client ID: FB-071122-1
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Water

Date Collected: 07/11/22 14:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/12/22 12:16	07/13/22 23:01	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236779
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-20
Client ID: FB-071122-2
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 14:05
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/12/22 12:16	07/13/22 23:06	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-21
Client ID: DUP-39
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	18.8		mg/kg	2.22	0.119	1	07/13/22 06:00	07/16/22 21:18	EPA 3050B	1,6010D	MC

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 19-20 Batch: WG1661768-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/12/22 12:16	07/13/22 21:46	1,6020B	SV

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-18,21 Batch: WG1661857-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/13/22 06:00	07/16/22 18:46	1,6010D	MC

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236779

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 Batch: WG1661768-2								
Lead, Total	98		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-18,21 Batch: WG1661857-2 SRM Lot Number: D113-540								
Lead, Total	89		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 QC Batch ID: WG1661768-3 QC Sample: L2236831-01 Client ID: MS Sample												
Lead, Total	488.2	530	818.1	**62**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-18,21 QC Batch ID: WG1661857-3 QC Sample: L2236779-01 Client ID: PB-848-01-SS01												
Lead, Total	6.75	50.7	44.3	**74**	Q	-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236779

Report Date: 07/18/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 QC Batch ID: WG1661768-4 QC Sample: L2236831-01 Client ID: DUP Sample						
Lead, Total	488.2	359.8	ug/l	**30**	Q	20
Total Metals - Mansfield Lab Associated sample(s): 01-18,21 QC Batch ID: WG1661857-4 QC Sample: L2236779-01 Client ID: PB-848-01-SS01						
Lead, Total	6.75	6.99	mg/kg	3		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Serial Dilution Analysis
Batch Quality Control

Lab Number: L2236779
Report Date: 07/18/22

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 QC Batch ID: WG1661768-6 QC Sample: L2236831-01 Client ID: DUP Sample						
Lead, Total	488.2	429.6	ug/l	12		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-01
Client ID: PB-848-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/11/22 09:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.6		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-02
Client ID: PB-848-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 09:10
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.0		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-03
Client ID: PB-848-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 09:20
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.5		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-04
Client ID: PB-848-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 09:30
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.9		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-05
Client ID: PB-848-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 09:40
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.6		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-06
Client ID: PB-848-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 09:50
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.8		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-07
Client ID: PB-848-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 10:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.0		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-08
Client ID: PB-848-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 10:10
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.0		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-09
Client ID: PB-848-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.8		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-10
Client ID: PB-848-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 10:30
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	72.1		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-11
Client ID: PB-848-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 10:40
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.3		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-12
Client ID: PB-848-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 10:50
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.6		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-13
Client ID: PB-848-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 11:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.8		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-14
Client ID: PB-848-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 11:10
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.1		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-15
Client ID: PB-848-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 11:20
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.2		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-16
Client ID: PB-848-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 11:30
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.4		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-17
Client ID: PB-848-17-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 11:40
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.8		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-18
Client ID: PB-848-18-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 11:50
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.2		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236779
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236779-21
Client ID: DUP-39
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.8		%	0.100	NA	1	-	07/12/22 12:01	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236779

Report Date: 07/18/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-18,21 QC Batch ID: WG1661707-1 QC Sample: L2236779-01 Client ID: PB-848-01-SS01						
Solids, Total	79.6	79.1	%	1		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236779-01A	Vial MeOH preserved	B	NA		3.1	Y	Absent		PA-8260HLW(14)
L2236779-01B	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-01C	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-01D	Plastic 2oz unpreserved for TS	B	NA		3.1	Y	Absent		TS(7)
L2236779-01E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.1	Y	Absent		PB-TI(180)
L2236779-01F	Glass 120ml/4oz unpreserved	B	NA		3.1	Y	Absent		PA-PAH(14)
L2236779-02A	Vial MeOH preserved	C	NA		3.7	Y	Absent		PA-8260HLW(14)
L2236779-02B	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-02C	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-02D	Plastic 2oz unpreserved for TS	C	NA		3.7	Y	Absent		TS(7)
L2236779-02E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.7	Y	Absent		PB-TI(180)
L2236779-02F	Glass 120ml/4oz unpreserved	C	NA		3.7	Y	Absent		PA-PAH(14)
L2236779-03A	Vial MeOH preserved	C	NA		3.7	Y	Absent		PA-8260HLW(14)
L2236779-03B	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-03C	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-03D	Plastic 2oz unpreserved for TS	C	NA		3.7	Y	Absent		TS(7)
L2236779-03E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.7	Y	Absent		PB-TI(180)
L2236779-03F	Glass 120ml/4oz unpreserved	C	NA		3.7	Y	Absent		PA-PAH(14)
L2236779-04A	Vial MeOH preserved	A	NA		4.4	Y	Absent		PA-8260HLW(14)
L2236779-04B	Vial water preserved	A	NA		4.4	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-04C	Vial water preserved	A	NA		4.4	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236779-04D	Plastic 2oz unpreserved for TS	A	NA		4.4	Y	Absent		TS(7)
L2236779-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		PB-TI(180)
L2236779-04F	Glass 120ml/4oz unpreserved	A	NA		4.4	Y	Absent		PA-PAH(14)
L2236779-05A	Vial MeOH preserved	B	NA		3.1	Y	Absent		PA-8260HLW(14)
L2236779-05B	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-05C	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-05D	Plastic 2oz unpreserved for TS	B	NA		3.1	Y	Absent		TS(7)
L2236779-05E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.1	Y	Absent		PB-TI(180)
L2236779-05F	Glass 120ml/4oz unpreserved	B	NA		3.1	Y	Absent		PA-PAH(14)
L2236779-06A	Vial MeOH preserved	A	NA		4.4	Y	Absent		PA-8260HLW(14)
L2236779-06B	Vial water preserved	A	NA		4.4	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-06C	Vial water preserved	A	NA		4.4	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-06D	Plastic 2oz unpreserved for TS	A	NA		4.4	Y	Absent		TS(7)
L2236779-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		PB-TI(180)
L2236779-06F	Glass 120ml/4oz unpreserved	A	NA		4.4	Y	Absent		PA-PAH(14)
L2236779-07A	Vial MeOH preserved	B	NA		3.1	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2236779-07B	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260H(14),PA-8260HLW(14)
L2236779-07C	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260H(14),PA-8260HLW(14)
L2236779-07D	Plastic 2oz unpreserved for TS	B	NA		3.1	Y	Absent		TS(7)
L2236779-07E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.1	Y	Absent		PB-TI(180)
L2236779-07F	Glass 120ml/4oz unpreserved	B	NA		3.1	Y	Absent		PA-PAH(14)
L2236779-08A	Vial MeOH preserved	C	NA		3.7	Y	Absent		PA-8260HLW(14)
L2236779-08B	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-08C	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-08D	Plastic 2oz unpreserved for TS	C	NA		3.7	Y	Absent		TS(7)
L2236779-08E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.7	Y	Absent		PB-TI(180)
L2236779-08F	Glass 120ml/4oz unpreserved	C	NA		3.7	Y	Absent		PA-PAH(14)
L2236779-09A	Vial MeOH preserved	C	NA		3.7	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236779-09B	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-09C	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-09D	Plastic 2oz unpreserved for TS	C	NA		3.7	Y	Absent		TS(7)
L2236779-09E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.7	Y	Absent		PB-TI(180)
L2236779-09F	Glass 120ml/4oz unpreserved	C	NA		3.7	Y	Absent		PA-PAH(14)
L2236779-10A	Vial MeOH preserved	C	NA		3.7	Y	Absent		PA-8260HLW(14)
L2236779-10B	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-10C	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-10D	Plastic 2oz unpreserved for TS	C	NA		3.7	Y	Absent		TS(7)
L2236779-10E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.7	Y	Absent		PB-TI(180)
L2236779-10F	Glass 120ml/4oz unpreserved	C	NA		3.7	Y	Absent		PA-PAH(14)
L2236779-11A	Vial MeOH preserved	B	NA		3.1	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2236779-11B	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260H(14),PA-8260HLW(14)
L2236779-11C	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260H(14),PA-8260HLW(14)
L2236779-11D	Plastic 2oz unpreserved for TS	B	NA		3.1	Y	Absent		TS(7)
L2236779-11E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.1	Y	Absent		PB-TI(180)
L2236779-11F	Glass 120ml/4oz unpreserved	B	NA		3.1	Y	Absent		PA-PAH(14)
L2236779-12A	Vial MeOH preserved	B	NA		3.1	Y	Absent		PA-8260HLW(14)
L2236779-12B	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-12C	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-12D	Plastic 2oz unpreserved for TS	B	NA		3.1	Y	Absent		TS(7)
L2236779-12E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.1	Y	Absent		PB-TI(180)
L2236779-12F	Glass 120ml/4oz unpreserved	B	NA		3.1	Y	Absent		PA-PAH(14)
L2236779-13A	Vial MeOH preserved	C	NA		3.7	Y	Absent		PA-8260HLW(14)
L2236779-13B	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-13C	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-13D	Plastic 2oz unpreserved for TS	C	NA		3.7	Y	Absent		TS(7)
L2236779-13E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.7	Y	Absent		PB-TI(180)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236779-13F	Glass 120ml/4oz unpreserved	C	NA		3.7	Y	Absent		PA-PAH(14)
L2236779-14A	Vial MeOH preserved	C	NA		3.7	Y	Absent		PA-8260HLW(14)
L2236779-14B	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-14C	Vial water preserved	C	NA		3.7	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-14D	Plastic 2oz unpreserved for TS	C	NA		3.7	Y	Absent		TS(7)
L2236779-14E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		3.7	Y	Absent		PB-TI(180)
L2236779-14F	Glass 120ml/4oz unpreserved	C	NA		3.7	Y	Absent		PA-PAH(14)
L2236779-15A	Vial MeOH preserved	B	NA		3.1	Y	Absent		PA-8260HLW(14)
L2236779-15B	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-15C	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-15D	Plastic 2oz unpreserved for TS	B	NA		3.1	Y	Absent		TS(7)
L2236779-15E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.1	Y	Absent		PB-TI(180)
L2236779-15F	Glass 120ml/4oz unpreserved	B	NA		3.1	Y	Absent		PA-PAH(14)
L2236779-16A	Vial MeOH preserved	B	NA		3.1	Y	Absent		PA-8260HLW(14)
L2236779-16B	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-16C	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-16D	Plastic 2oz unpreserved for TS	B	NA		3.1	Y	Absent		TS(7)
L2236779-16E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.1	Y	Absent		PB-TI(180)
L2236779-16F	Glass 120ml/4oz unpreserved	B	NA		3.1	Y	Absent		PA-PAH(14)
L2236779-17A	Vial MeOH preserved	A	NA		4.4	Y	Absent		PA-8260HLW(14)
L2236779-17B	Vial water preserved	A	NA		4.4	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-17C	Vial water preserved	A	NA		4.4	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-17D	Plastic 2oz unpreserved for TS	A	NA		4.4	Y	Absent		TS(7)
L2236779-17E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.4	Y	Absent		PB-TI(180)
L2236779-17F	Glass 120ml/4oz unpreserved	A	NA		4.4	Y	Absent		PA-PAH(14)
L2236779-18A	Vial MeOH preserved	B	NA		3.1	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2236779-18B	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260H(14),PA-8260HLW(14)
L2236779-18C	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260H(14),PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236779
Report Date: 07/18/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236779-18D	Plastic 2oz unpreserved for TS	B	NA		3.1	Y	Absent		TS(7)
L2236779-18E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.1	Y	Absent		PB-TI(180)
L2236779-18F	Glass 120ml/4oz unpreserved	B	NA		3.1	Y	Absent		PA-PAH(14)
L2236779-19A	Vial HCl preserved	A	NA		4.4	Y	Absent		8011(14),PA-8260(14)
L2236779-19B	Vial HCl preserved	A	NA		4.4	Y	Absent		8011(14),PA-8260(14)
L2236779-19C	Vial HCl preserved	A	NA		4.4	Y	Absent		8011(14),PA-8260(14)
L2236779-19D	Plastic 250ml HNO3 preserved	A	<2	<2	4.4	Y	Absent		PB-6020T-PPB(180)
L2236779-19E	Amber 250ml unpreserved	A	7	7	4.4	Y	Absent		PA-PAHSIM-LVI(7)
L2236779-19F	Amber 250ml unpreserved	A	7	7	4.4	Y	Absent		PA-PAHSIM-LVI(7)
L2236779-20A	Vial HCl preserved	A	NA		4.4	Y	Absent		8011(14),PA-8260(14)
L2236779-20B	Vial HCl preserved	A	NA		4.4	Y	Absent		8011(14),PA-8260(14)
L2236779-20C	Vial HCl preserved	A	NA		4.4	Y	Absent		8011(14),PA-8260(14)
L2236779-20D	Plastic 250ml HNO3 preserved	A	<2	<2	4.4	Y	Absent		PB-6020T-PPB(180)
L2236779-20E	Amber 250ml unpreserved	A	7	7	4.4	Y	Absent		PA-PAHSIM-LVI(7)
L2236779-20F	Amber 250ml unpreserved	A	7	7	4.4	Y	Absent		PA-PAHSIM-LVI(7)
L2236779-21A	Vial MeOH preserved	B	NA		3.1	Y	Absent		PA-8260HLW(14)
L2236779-21B	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-21C	Vial water preserved	B	NA		3.1	Y	Absent	12-JUL-22 09:00	PA-8260HLW(14)
L2236779-21D	Plastic 2oz unpreserved for TS	B	NA		3.1	Y	Absent		TS(7)
L2236779-21E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.1	Y	Absent		PB-TI(180)
L2236779-21F	Glass 120ml/4oz unpreserved	B	NA		3.1	Y	Absent		PA-PAH(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236779
Project Number:	200.00135.006	**Report Date:**	07/18/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236779
Project Number:	200.00135.006	**Report Date:**	07/18/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236779
Project Number:	200.00135.006	**Report Date:**	07/18/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236779
Project Number:	200.00135.006	**Report Date:**	07/18/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 3

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/12/22

ALPHA Job #: L2236779

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

"Report only attached project-specific analyte list" of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36779-01	PB-848-01-5501	7/11/22	900	S	AL	
-02	PB-848-02-5501		910			
-03	PB-848-03-5501		920			
-04	PB-848-04-5501		930			
-05	PB-848-05-5501		940			
-06	PB-848-06-5501		950			
-07	PB-848-07-5501		1000			
-08	PB-848-08-5501		1010			
-09	PB-848-09-5501		1020			
-10	PB-848-10-5501		1030			

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/11/22	STO AAL	7/11/22 15:18
	7/11/22 1600		7/11 1600
	7/11 2400		7/11 0900

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(MA) (rev. 5-JAN-12)

7/12/22 0030

CHAIN OF CUSTODY

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ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/12/22 | ALPHA Job #: L2236779

Report Information | **Data Deliverables** | **Billing Information**

☐ FAX ☒ EMAIL ☐ Same as Client info PO #: 3562
☒ ADEx ☐ Add'l Deliverables

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done ☒ Not Needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36779-11	PB-848-11-5501	7/11/22	1040	S	AL	
-12	PB-848-12-5501		1050			
-13	PB-848-13-5501		1100			
-14	PB-848-14-5501		1110			
-15	PB-848-15-5501		1120			
-16	PB-848-16-5501		1130			
-17	PB-848-17-5501		1140			
-18	PB-848-18-5501		1150			
-19	FB-071122-1		1400	W		1"
-20	FB-071122-2		1405			2"

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
	7/11/22	ST AAL	7/11/22 15:18
ST	7/11/22 1800	AMP	7/11/22 1800
AMP	7/11/22 2400		7/11/22 2400

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(HC) (rev. 9-JAN-12)

CHAIN OF CUSTODY

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Date Rec'd in Lab: 7/12/22

ALPHA Job #: L2236779

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING

Filtration
☐ Done
☒ Not Needed
☐ Lab to do

Preservation
☐ Lab to do

(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36779-11-21 CG	DUP-39	7/11/22	—	S	ac	

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/11/22	STN AA	7/12/22 15:15
STN	7/11/22 1600	MP	7/11/22 1600
MP	7/11/22 2101		7/11/22 2101
	7/11/22	ASC	7/12/22 0020

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

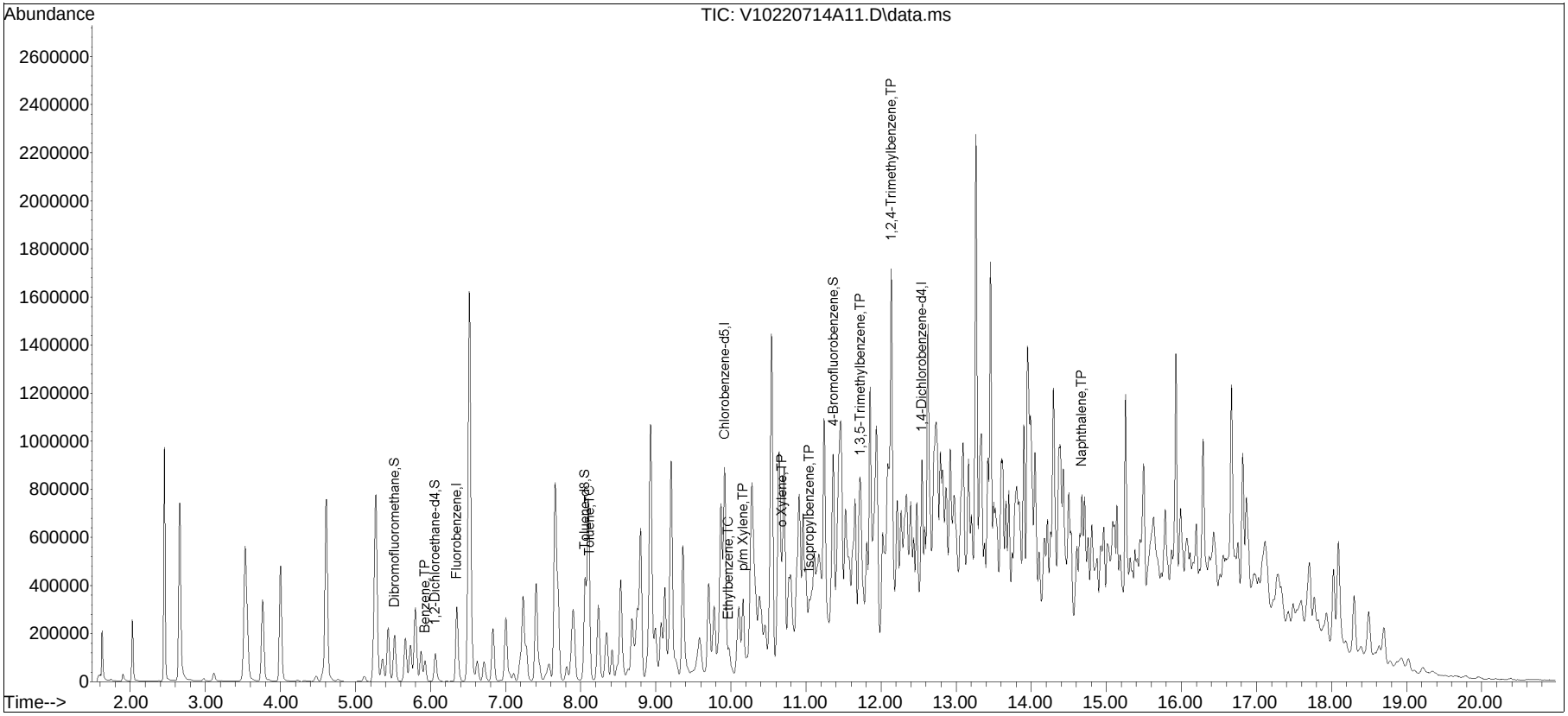
FORM NO: 01-01(I-NJ) (rev. 8-JAN-12)

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA110\2022\220714A\
Data File : V10220714A11.D
Acq On : 14 Jul 2022 12:04 pm
Operator : VOA110:JC
Sample : l2236779-04D,31h,5.98,5,0.025,,a,r2f
Misc : WG1662882,ICAL18890
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 15 09:26:26 2022
Quant Method : I:\VOLATILES\VOA110\2022\220714A\V110_220401N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 04 06:52:50 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list14A\V10220714A01.D•

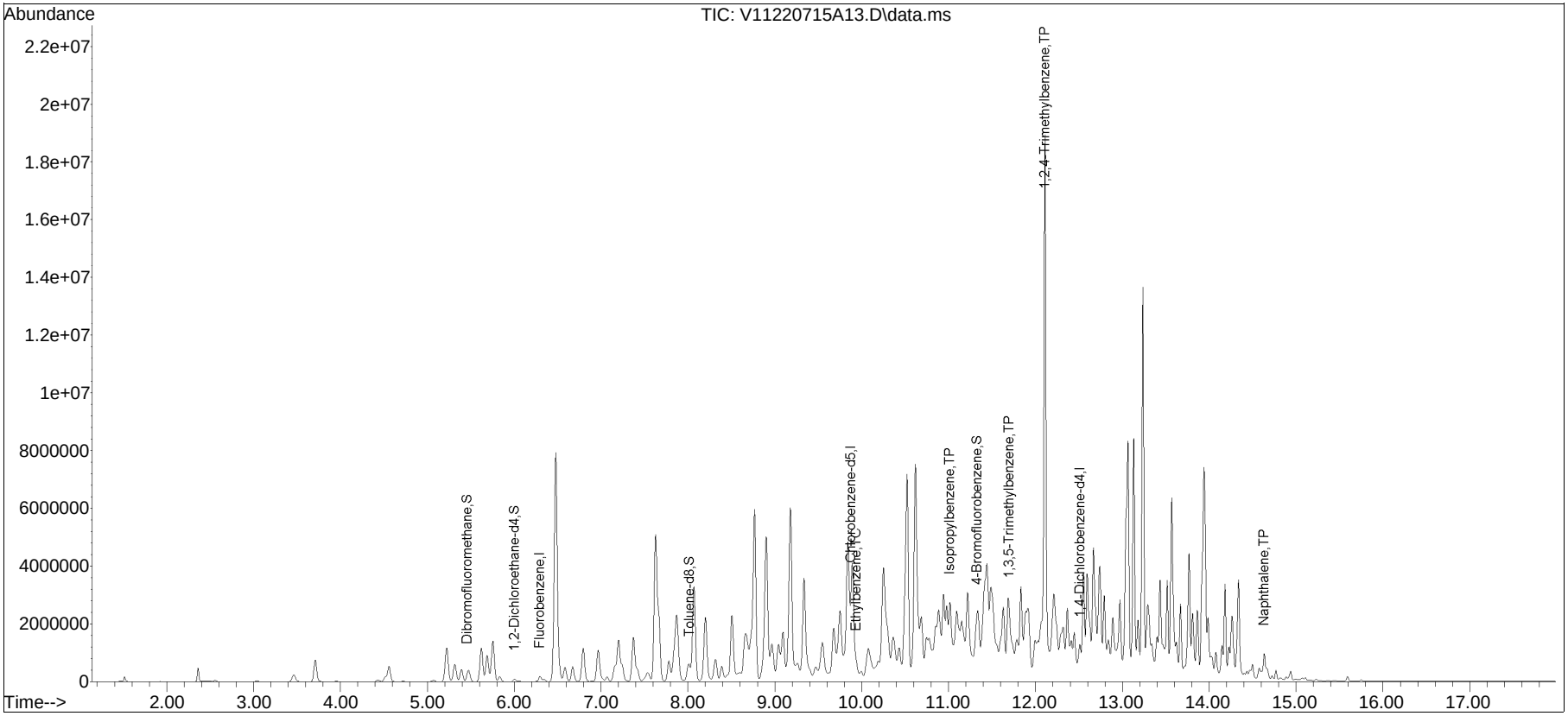


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2022\220715A\
Data File : V11220715A13.D
Acq On : 15 Jul 2022 03:28 pm
Operator : VOA111:LAC
Sample : L2236779-06,31H,5.94,5,0.100,,A,R2F
Misc : WG1663910,ICAL19072
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 16 17:28:29 2022
Quant Method : I:\VOLATILES\VOA111\2022\220715A\V111_220608A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Jun 09 10:30:20 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list15A\V11220715A02.D•

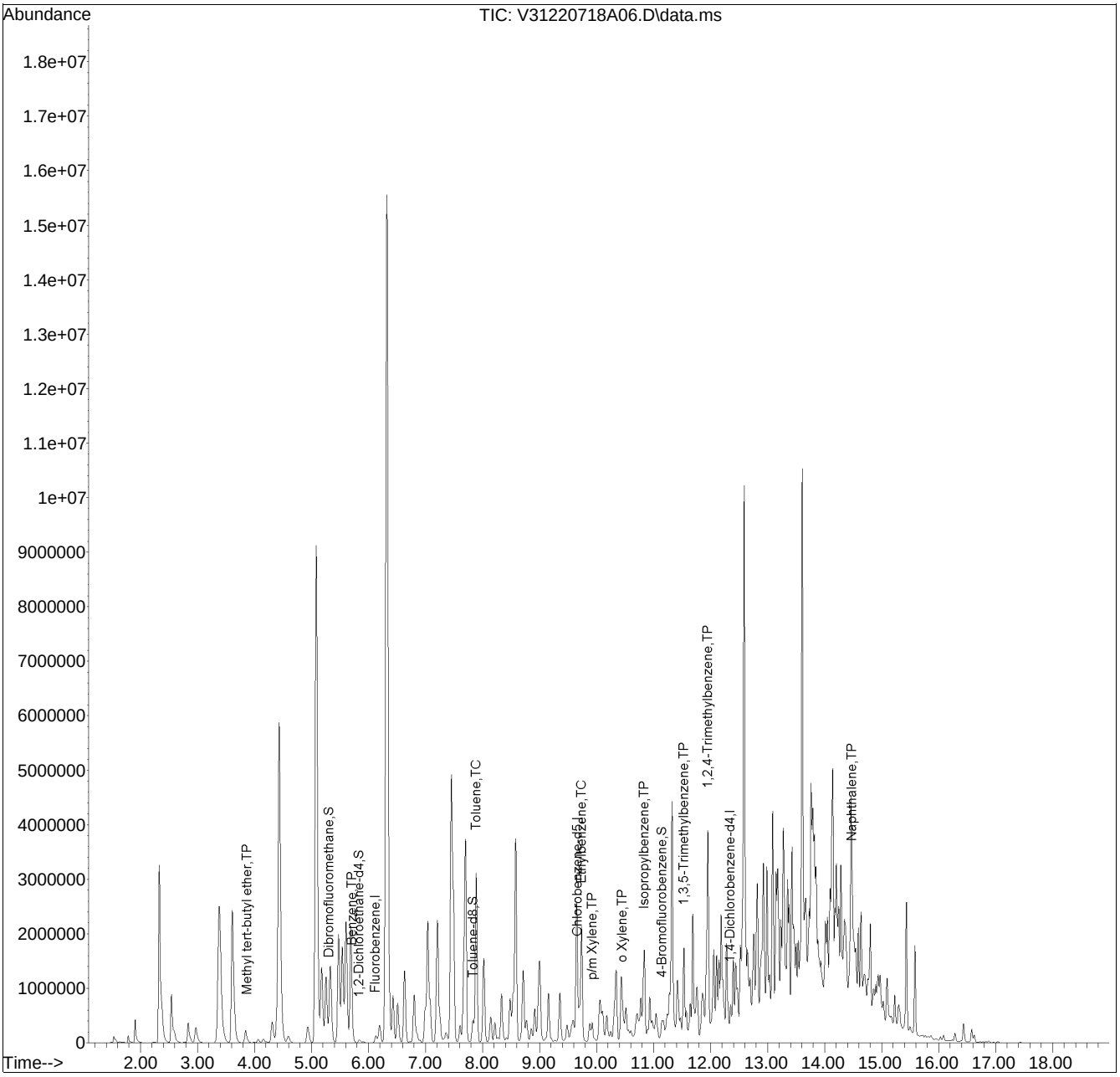


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA131\2022\220718A\
Data File : V31220718A06.D
Acq On : 18 Jul 2022 09:20 am
Operator : VOA131:MKS
Sample : l2236779-07,31,6.77,5,,b,r2f
Misc : WG1664169,ICAL19050
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 18 10:15:35 2022
Quant Method : I:\VOLATILES\VOA131\2022\220718A\V31_220525N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue May 31 11:11:48 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list18A\V31220718A01.D•

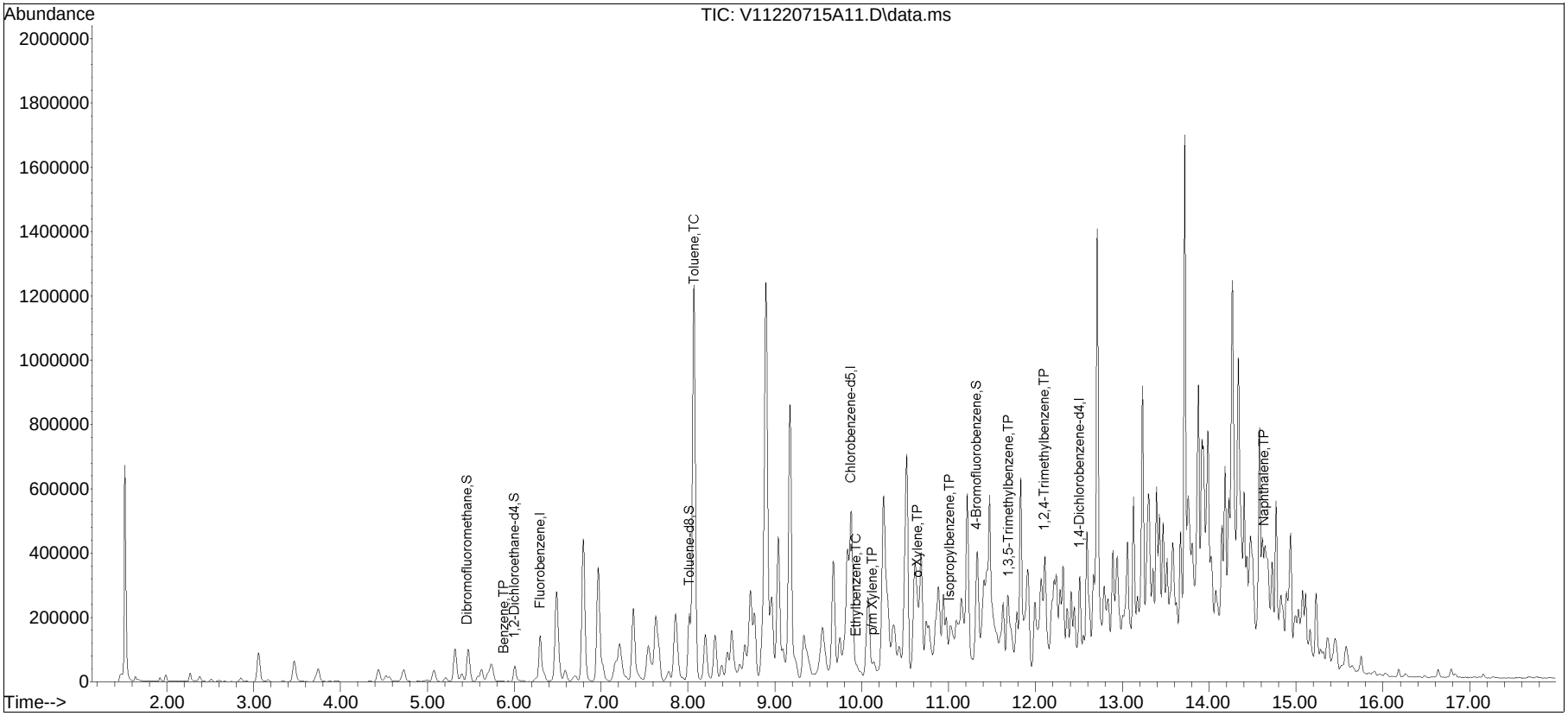


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2022\220715A\
Data File : V11220715A11.D
Acq On : 15 Jul 2022 02:36 pm
Operator : VOA111:LAC
Sample : L2236779-09,31,6.29,5,,B,R2F
Misc : WG1663911,ICAL19072
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 16 17:27:37 2022
Quant Method : I:\VOLATILES\VOA111\2022\220715A\V111_220608A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Jun 09 10:30:20 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list15A\V11220715A02.D•

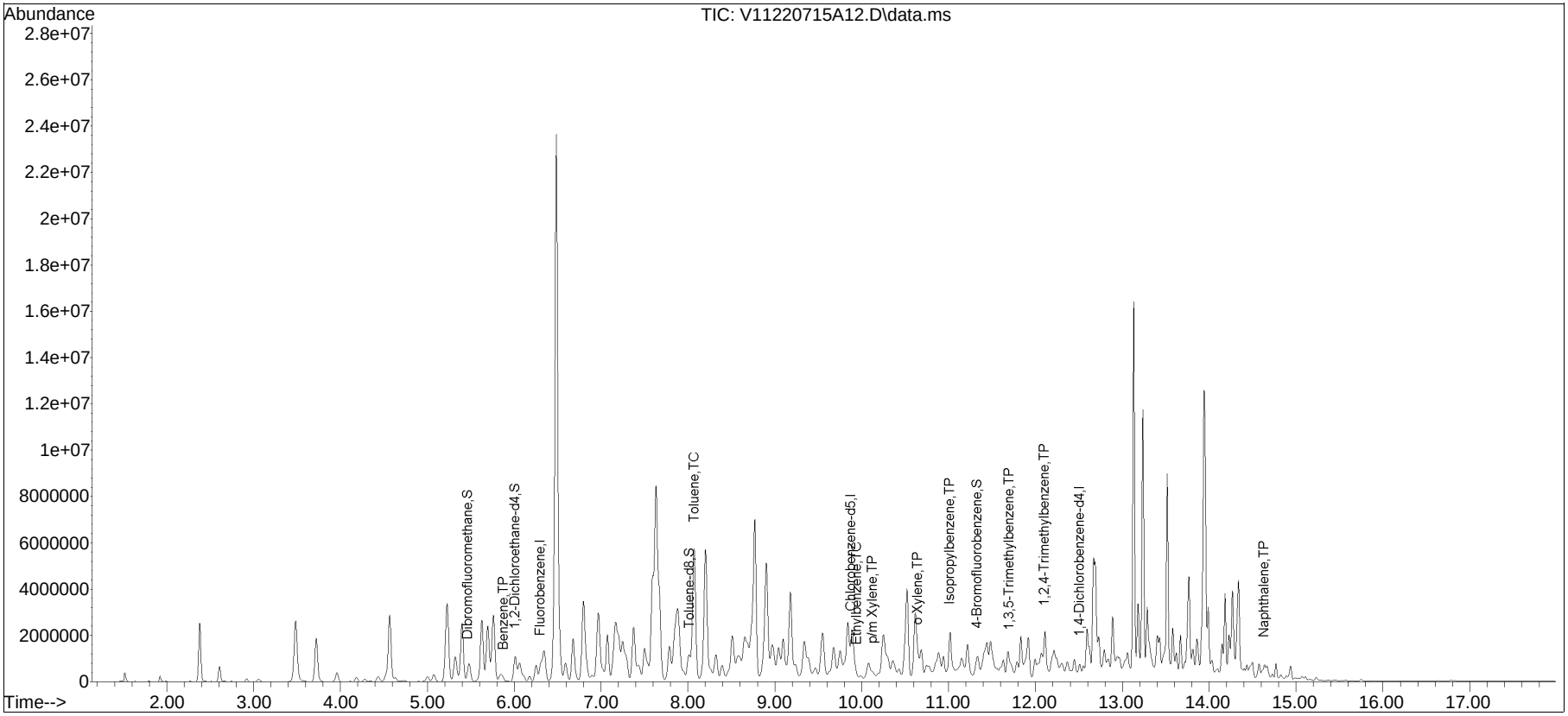


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2022\220715A\
Data File : V11220715A12.D
Acq On : 15 Jul 2022 03:02 pm
Operator : VOA111:LAC
Sample : L2236779-11,31,4.28,5,,B,R2F
Misc : WG1663911,ICAL19072
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 16 17:27:58 2022
Quant Method : I:\VOLATILES\VOA111\2022\220715A\V111_220608A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Jun 09 10:30:20 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list15A\V11220715A02.D•

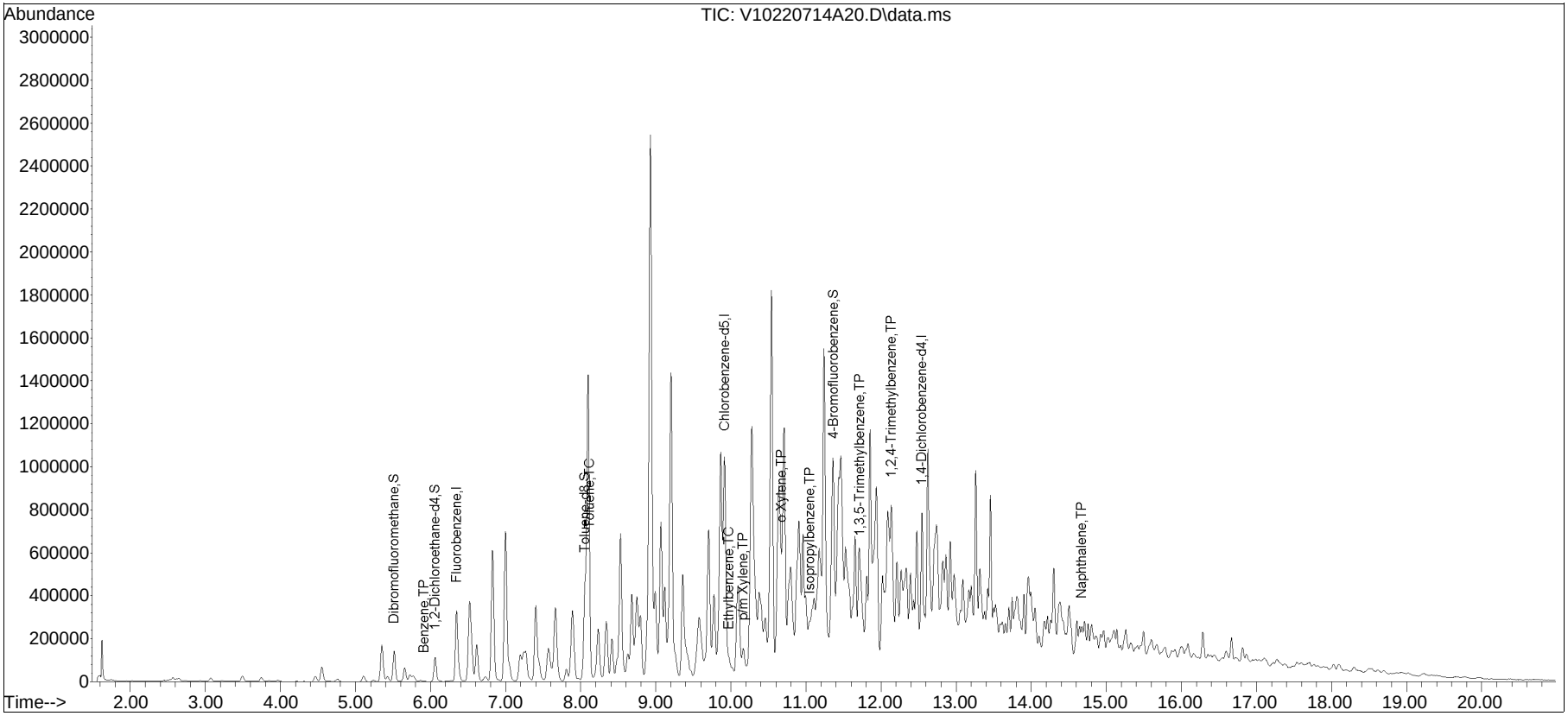


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA110\2022\220714A\
Data File : V10220714A20.D
Acq On : 14 Jul 2022 4:28 pm
Operator : VOA110:JC
Sample : l2236779-13,31h,5.46,5,0.100,,a,r2f
Misc : WG1662882,ICAL18890
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Jul 15 09:20:24 2022
Quant Method : I:\VOLATILES\VOA110\2022\220714A\V110_220401N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 04 06:52:50 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list14A\V10220714A01.D•

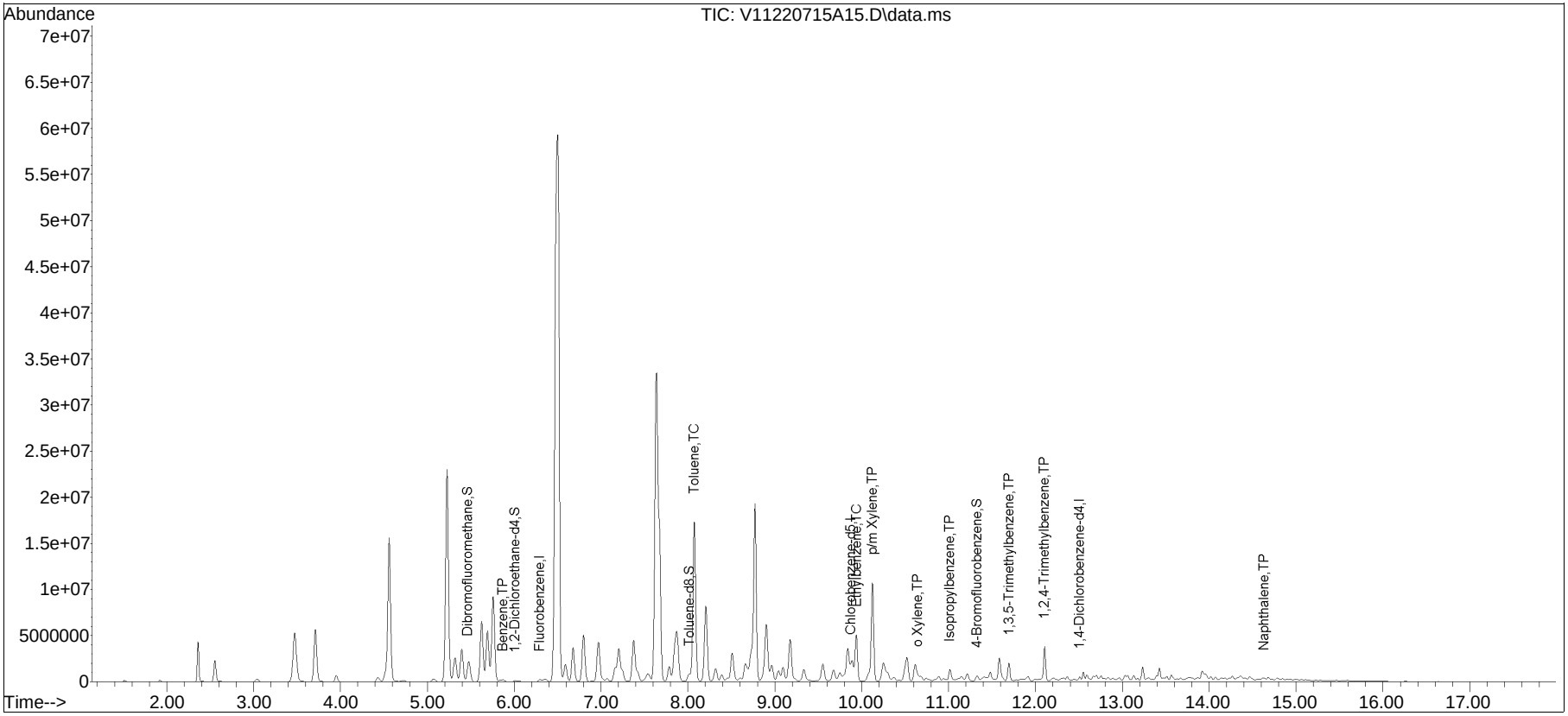


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2022\220715A\
Data File : V11220715A15.D
Acq On : 15 Jul 2022 04:21 pm
Operator : VOA111:LAC
Sample : L2236779-15,31H,6.49,5,0.100,,A,R2F
Misc : WG1663910,ICAL19072
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 16 17:30:19 2022
Quant Method : I:\VOLATILES\VOA111\2022\220715A\V111_220608A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Jun 09 10:30:20 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list15A\V11220715A02.D•

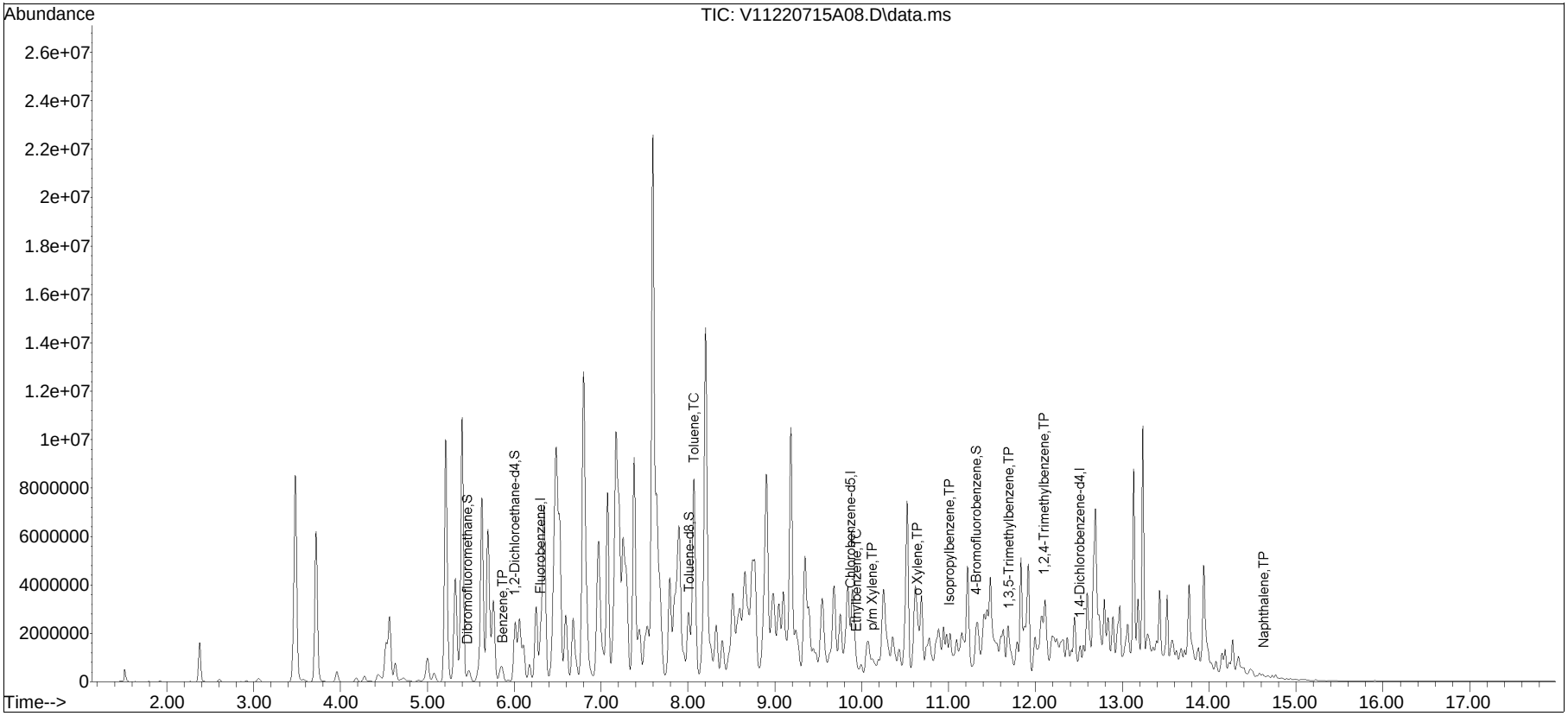


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA111\2022\220715A\
Data File : V11220715A08.D
Acq On : 15 Jul 2022 01:17 pm
Operator : VOA111:LAC
Sample : L2236779-18,31,5.90,5,,B,R2F
Misc : WG1663911,ICAL19072
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 16 17:26:42 2022
Quant Method : I:\VOLATILES\VOA111\2022\220715A\V111_220608A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Jun 09 10:30:20 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list15A\V11220715A02.D•



ANALYTICAL REPORT

Lab Number:	L2236817
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/18/22

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236817
Report Date: 07/18/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2236817-01	PB-843-03-SS01	SOIL	PHILADELPHIA, PA	07/11/22 10:00	07/11/22
L2236817-02	PB-843-04-SS01	SOIL	PHILADELPHIA, PA	07/11/22 10:20	07/11/22
L2236817-03	PB-843-05-SS01	SOIL	PHILADELPHIA, PA	07/11/22 10:50	07/11/22
L2236817-04	PB-843-10-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:00	07/11/22
L2236817-05	PB-843-11-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:10	07/11/22
L2236817-06	PB-843-12-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:20	07/11/22
L2236817-07	PB-843-13-SS01	SOIL	PHILADELPHIA, PA	07/11/22 11:35	07/11/22
L2236817-08	PB-843-17-SS01	SOIL	PHILADELPHIA, PA	07/11/22 13:00	07/11/22
L2236817-09	PB-843-14-SS01	SOIL	PHILADELPHIA, PA	07/11/22 13:10	07/11/22
L2236817-10	PB-843-01-SS01	SOIL	PHILADELPHIA, PA	07/11/22 13:20	07/11/22
L2236817-11	PB-843-08-SS01	SOIL	PHILADELPHIA, PA	07/11/22 14:00	07/11/22
L2236817-12	PB-843-02-SS01	SOIL	PHILADELPHIA, PA	07/11/22 14:15	07/11/22
L2236817-13	PB-843-06-SS01	SOIL	PHILADELPHIA, PA	07/11/22 14:25	07/11/22
L2236817-14	PB-843-07-SS01	SOIL	PHILADELPHIA, PA	07/11/22 14:35	07/11/22
L2236817-15	PB-843-15-SS01	SOIL	PHILADELPHIA, PA	07/11/22 14:50	07/11/22
L2236817-16	PB-843-09-SS01	SOIL	PHILADELPHIA, PA	07/11/22 15:00	07/11/22
L2236817-17	PB-843-16-SS01	SOIL	PHILADELPHIA, PA	07/11/22 15:20	07/11/22
L2236817-18	DUP-40	SOIL	PHILADELPHIA, PA	07/11/22 00:00	07/11/22
L2236817-19	FB-071122-3	WATER	PHILADELPHIA, PA	07/11/22 15:30	07/11/22
L2236817-20	FB-071122-4	WATER	PHILADELPHIA, PA	07/11/22 15:35	07/11/22
L2236817-21	TB-071122	WATER	PHILADELPHIA, PA	07/11/22 00:00	07/11/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236817
Project Number:	200.00135.006	**Report Date:**	07/18/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236817
Project Number:	200.00135.006	**Report Date:**	07/18/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Total Metals

L2236817-03, -17, and -18: The sample has an elevated detection limit for lead due to the dilution required by matrix interferences encountered during analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 07/18/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-01
Client ID: PB-843-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 22:08
Analyst: JC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0027	0.00027	1
Benzene	ND		mg/kg	0.00067	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00034	1
Toluene	ND		mg/kg	0.0013	0.00072	1
1,2-Dibromoethane	ND		mg/kg	0.00067	0.00039	1
Ethylbenzene	ND		mg/kg	0.0013	0.00019	1
p/m-Xylene	ND		mg/kg	0.0027	0.00075	1
o-Xylene	ND		mg/kg	0.0013	0.00039	1
Xylenes, Total	ND		mg/kg	0.0013	0.00039	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0027	0.00026	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0027	0.00044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-02
Client ID: PB-843-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 22:34
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	0.00078		mg/kg	0.00061	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00066	1
1,2-Dibromoethane	ND		mg/kg	0.00061	0.00036	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00068	1
o-Xylene	ND		mg/kg	0.0012	0.00035	1
Xylenes, Total	ND		mg/kg	0.0012	0.00035	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00040	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	84		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-03
Client ID: PB-843-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 23:00
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	0.0067		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00061	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	0.00012	J	mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	75		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	83		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-04
Client ID: PB-843-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 23:26
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0012	J	mg/kg	0.0021	0.00021	1
Benzene	0.082		mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	0.0052		mg/kg	0.0021	0.00058	1
o-Xylene	0.0018		mg/kg	0.0010	0.00030	1
Xylenes, Total	0.0070		mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.00037	J	mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	72		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	79		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-05
Client ID: PB-843-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/14/22 23:52
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00045	J	mg/kg	0.0025	0.00025	1
Benzene	0.00024	J	mg/kg	0.00063	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00032	1
Toluene	ND		mg/kg	0.0013	0.00068	1
1,2-Dibromoethane	ND		mg/kg	0.00063	0.00037	1
Ethylbenzene	ND		mg/kg	0.0013	0.00018	1
p/m-Xylene	ND		mg/kg	0.0025	0.00071	1
o-Xylene	ND		mg/kg	0.0013	0.00037	1
Xylenes, Total	ND		mg/kg	0.0013	0.00037	1
Isopropylbenzene	0.00026	J	mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0025	0.00024	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0025	0.00042	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	79		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	87		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-06
Client ID: PB-843-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 00:18
Analyst: JC
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00090	J	mg/kg	0.0020	0.00020	1
Benzene	0.0017		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.00045	J	mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	72		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	80		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-07
Client ID: PB-843-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 00:44
Analyst: JC
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	76		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	82		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-08
Client ID: PB-843-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 13:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 01:11
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00055	J	mg/kg	0.0023	0.00023	1
Benzene	0.00024	J	mg/kg	0.00057	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00057	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00064	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	72		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	79		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-09
Client ID: PB-843-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 13:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 01:37
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00060	J	mg/kg	0.0020	0.00020	1
Benzene	0.00035	J	mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00099	0.00025	1
Toluene	ND		mg/kg	0.00099	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00099	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00099	0.00029	1
Xylenes, Total	ND		mg/kg	0.00099	0.00029	1
Isopropylbenzene	0.00017	J	mg/kg	0.00099	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	73		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	77		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-10
Client ID: PB-843-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 13:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 02:03
Analyst: JC
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	88		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-11
Client ID: PB-843-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 02:29
Analyst: JC
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	86		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-12
Client ID: PB-843-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:15
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 02:56
Analyst: JC
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	0.00085		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00091	0.00023	1
Toluene	ND		mg/kg	0.00091	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00091	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00091	0.00026	1
Xylenes, Total	ND		mg/kg	0.00091	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00091	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	79		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	83		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-13
Client ID: PB-843-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:25
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 03:22
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00037	J	mg/kg	0.0024	0.00024	1
Benzene	0.0057		mg/kg	0.00061	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00066	1
1,2-Dibromoethane	ND		mg/kg	0.00061	0.00036	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00068	1
o-Xylene	ND		mg/kg	0.0012	0.00035	1
Xylenes, Total	ND		mg/kg	0.0012	0.00035	1
Isopropylbenzene	0.00071	J	mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00040	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	78		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	84		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-14
Client ID: PB-843-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 05:07
Analyst: JC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00047	J	mg/kg	0.0019	0.00019	1
Benzene	0.00032	J	mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00096	0.00025	1
Toluene	0.0020		mg/kg	0.00096	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	0.00071	J	mg/kg	0.00096	0.00014	1
p/m-Xylene	0.0034		mg/kg	0.0019	0.00054	1
o-Xylene	0.0015		mg/kg	0.00096	0.00028	1
Xylenes, Total	0.0049		mg/kg	0.00096	0.00028	1
Isopropylbenzene	0.00016	J	mg/kg	0.00096	0.00010	1
1,3,5-Trimethylbenzene	0.0011	J	mg/kg	0.0019	0.00019	1
1,2,4-Trimethylbenzene	0.0018	J	mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	128		70-130
Dibromofluoromethane	79		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-15
Client ID: PB-843-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 03:48
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00097	0.00025	1
Toluene	ND		mg/kg	0.00097	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00097	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00097	0.00028	1
Xylenes, Total	ND		mg/kg	0.00097	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00097	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	73		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	76		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-16
Client ID: PB-843-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 04:14
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0025	0.00025	1
Benzene	0.0018		mg/kg	0.00063	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00032	1
Toluene	ND		mg/kg	0.0012	0.00068	1
1,2-Dibromoethane	ND		mg/kg	0.00063	0.00037	1
Ethylbenzene	ND		mg/kg	0.0012	0.00018	1
p/m-Xylene	ND		mg/kg	0.0025	0.00070	1
o-Xylene	ND		mg/kg	0.0012	0.00037	1
Xylenes, Total	ND		mg/kg	0.0012	0.00037	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0025	0.00024	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0025	0.00042	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	78		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	83		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-17
Client ID: PB-843-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 04:40
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00020	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00097	0.00025	1
Toluene	ND		mg/kg	0.00097	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00097	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00097	0.00028	1
Xylenes, Total	ND		mg/kg	0.00097	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00097	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	76		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	83		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-18
Client ID: DUP-40
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 11:00
Analyst: LAC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0026	0.00026	1
Benzene	ND		mg/kg	0.00066	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00034	1
Toluene	ND		mg/kg	0.0013	0.00071	1
1,2-Dibromoethane	ND		mg/kg	0.00066	0.00038	1
Ethylbenzene	ND		mg/kg	0.0013	0.00018	1
p/m-Xylene	ND		mg/kg	0.0026	0.00074	1
o-Xylene	ND		mg/kg	0.0013	0.00038	1
Xylenes, Total	ND		mg/kg	0.0013	0.00038	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0026	0.00025	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0026	0.00044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	77		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-19
Client ID: FB-071122-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 17:00
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-19
Client ID: FB-071122-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/13/22 22:36
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	121		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	129		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-20
Client ID: FB-071122-4
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 17:06
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-20
Client ID: FB-071122-4
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/13/22 23:01
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	124		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	**133**	Q	70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-21
Client ID: TB-071122
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/13/22 17:13
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-21
Client ID: TB-071122
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/15/22 12:51
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	130		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/13/22 14:45
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/13/22 13:35

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 19-21 Batch: WG1662273-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/13/22 17:26
Analyst: TMS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 19-20 Batch: WG1663309-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	119		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/14/22 20:49
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-17 Batch: WG1663407-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 09:04
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 21 Batch: WG1663987-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	119		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 08:41
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 18 Batch: WG1663990-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	86		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	101		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236817

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 19-21 Batch: WG1662273-2								
1,2-Dibromoethane	110		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236817

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 19-20 Batch: WG1663309-3 WG1663309-4								
Methyl tert butyl ether	95		97		63-130	2		20
Benzene	98		100		70-130	2		20
1,2-Dichloroethane	100		100		70-130	0		20
Toluene	95		96		70-130	1		20
Ethylbenzene	94		96		70-130	2		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
Isopropylbenzene	88		92		70-130	4		20
1,3,5-Trimethylbenzene	91		95		64-130	4		20
1,2,4-Trimethylbenzene	90		94		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		105		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	102		94		70-130
Dibromofluoromethane	102		104		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-17 Batch: WG1663407-3 WG1663407-4								
Methyl tert butyl ether	99		101		66-130	2		30
Benzene	93		93		70-130	0		30
1,2-Dichloroethane	70		71		70-130	1		30
Toluene	95		95		70-130	0		30
1,2-Dibromoethane	86		88		70-130	2		30
Ethylbenzene	92		91		70-130	1		30
p/m-Xylene	96		95		70-130	1		30
o-Xylene	93		93		70-130	0		30
Isopropylbenzene	99		100		70-130	1		30
1,3,5-Trimethylbenzene	92		97		70-130	5		30
1,2,4-Trimethylbenzene	92		94		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	74		75		70-130
Toluene-d8	102		103		70-130
4-Bromofluorobenzene	102		102		70-130
Dibromofluoromethane	79		79		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236817

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 21 Batch: WG1663987-3 WG1663987-4								
Methyl tert butyl ether	91		91		63-130	0		20
Benzene	100		100		70-130	0		20
1,2-Dichloroethane	98		100		70-130	2		20
Toluene	98		98		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	105		105		70-130	0		20
o-Xylene	105		105		70-130	0		20
Isopropylbenzene	96		98		70-130	2		20
1,3,5-Trimethylbenzene	97		97		64-130	0		20
1,2,4-Trimethylbenzene	98		98		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		97		70-130
Toluene-d8	98		96		70-130
4-Bromofluorobenzene	91		92		70-130
Dibromofluoromethane	104		106		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236817

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 18 Batch: WG1663990-3 WG1663990-4								
Methyl tert butyl ether	94		100		66-130	6		30
Benzene	90		92		70-130	2		30
1,2-Dichloroethane	**69**	Q	70		70-130	1		30
Toluene	89		94		70-130	5		30
1,2-Dibromoethane	95		98		70-130	3		30
Ethylbenzene	86		91		70-130	6		30
p/m-Xylene	91		96		70-130	5		30
o-Xylene	91		96		70-130	5		30
Isopropylbenzene	86		91		70-130	6		30
1,3,5-Trimethylbenzene	85		91		70-130	7		30
1,2,4-Trimethylbenzene	86		92		70-130	7		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	78		77		70-130
Toluene-d8	98		101		70-130
4-Bromofluorobenzene	94		95		70-130
Dibromofluoromethane	90		90		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-01
Client ID: PB-843-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 08:01
Analyst: SLR
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	48		23-120
2-Fluorobiphenyl	**23**	Q	30-120
4-Terphenyl-d14	30		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-02
Client ID: PB-843-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 08:25
Analyst: SLR
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	55		23-120
2-Fluorobiphenyl	**29**	Q	30-120
4-Terphenyl-d14	23		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-03
Client ID: PB-843-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 10:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 06:28
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	59		23-120
2-Fluorobiphenyl	**29**	Q	30-120
4-Terphenyl-d14	30		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-04
Client ID: PB-843-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 11:33
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.037	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	57		23-120
2-Fluorobiphenyl	33		30-120
4-Terphenyl-d14	32		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-05
Client ID: PB-843-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 12:43
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	115		23-120
2-Fluorobiphenyl	64		30-120
4-Terphenyl-d14	56		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-06
Client ID: PB-843-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 08:48
Analyst: SLR
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	102		23-120
2-Fluorobiphenyl	53		30-120
4-Terphenyl-d14	55		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-07
Client ID: PB-843-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 11:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 09:12
Analyst: SLR
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.034	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	101		23-120
2-Fluorobiphenyl	46		30-120
4-Terphenyl-d14	38		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-08
Client ID: PB-843-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 13:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 11:56
Analyst: SLR
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	104		23-120
2-Fluorobiphenyl	56		30-120
4-Terphenyl-d14	58		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-09
Client ID: PB-843-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 13:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 12:20
Analyst: SLR
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	55		30-120
4-Terphenyl-d14	55		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-10
Client ID: PB-843-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 13:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 15:23
Analyst: CMM
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 07:56

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	57		30-120
4-Terphenyl-d14	65		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-11
Client ID: PB-843-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 18:06
Analyst: SLR
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	54		23-120
2-Fluorobiphenyl	51		30-120
4-Terphenyl-d14	48		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-12
Client ID: PB-843-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:15
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 05:41
Analyst: SLR
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	100		23-120
2-Fluorobiphenyl	58		30-120
4-Terphenyl-d14	63		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-13
Client ID: PB-843-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:25
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 02:36
Analyst: SZ
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.022	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	71		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-14
Client ID: PB-843-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 08:54
Analyst: SZ
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.038	J	mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	0.14		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.037	J	mg/kg	0.11	0.021	1
Chrysene	0.10	J	mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.033	J	mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	101		23-120
2-Fluorobiphenyl	58		30-120
4-Terphenyl-d14	60		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-15
Client ID: PB-843-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 14:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 06:56
Analyst: SZ
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	0.19		mg/kg	0.12	0.024	1
Anthracene	0.050	J	mg/kg	0.12	0.038	1
Pyrene	0.39		mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.24		mg/kg	0.12	0.022	1
Chrysene	0.24		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.27		mg/kg	0.12	0.033	1
Benzo(a)pyrene	0.23		mg/kg	0.16	0.047	1
Benzo(ghi)perylene	0.12	J	mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	67		30-120
4-Terphenyl-d14	54		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-16
Client ID: PB-843-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 02:12
Analyst: SZ
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	54		23-120
2-Fluorobiphenyl	52		30-120
4-Terphenyl-d14	42		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-17
Client ID: PB-843-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 02:59
Analyst: SZ
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	62		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-18
Client ID: DUP-40
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/13/22 03:23
Analyst: SZ
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	0.026	J	mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	0.026	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.022	J	mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	64		23-120
2-Fluorobiphenyl	60		30-120
4-Terphenyl-d14	51		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-19
Client ID: FB-071122-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:30
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/13/22 12:54
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/12/22 15:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	38		23-120
2-Fluorobiphenyl	43		15-120
4-Terphenyl-d14	44		41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-20
Client ID: FB-071122-4
Sample Location: PHILADELPHIA, PA

Date Collected: 07/11/22 15:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/17/22 13:38
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/12/22 15:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	28		23-120
2-Fluorobiphenyl	29		15-120
4-Terphenyl-d14	**32**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/13/22 01:47
Analyst: SLR

Extraction Method: EPA 3546
Extraction Date: 07/12/22 14:34

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-09,11-18 Batch: WG1661861-1					
Naphthalene	ND		mg/kg	0.17	0.020
Fluorene	ND		mg/kg	0.17	0.016
Phenanthrene	ND		mg/kg	0.10	0.020
Anthracene	ND		mg/kg	0.10	0.032
Pyrene	ND		mg/kg	0.10	0.016
Benzo(a)anthracene	ND		mg/kg	0.10	0.019
Chrysene	ND		mg/kg	0.10	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.020

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	61		23-120
2-Fluorobiphenyl	33		30-120
4-Terphenyl-d14	41		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/13/22 11:32
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/12/22 15:44

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 19-20 Batch: WG1661883-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	0.03	J	ug/l	0.05	0.02
Anthracene	0.02	J	ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	0.03	J	ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	38		23-120
2-Fluorobiphenyl	39		15-120
4-Terphenyl-d14	46		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/14/22 13:22
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 10 Batch: WG1662493-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.10	0.020
Anthracene	ND		mg/kg	0.10	0.032
Pyrene	ND		mg/kg	0.10	0.016
Benzo(a)anthracene	ND		mg/kg	0.10	0.019
Chrysene	ND		mg/kg	0.10	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.020

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	90		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236817
Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-09,11-18 Batch: WG1661861-2 WG1661861-3								
Naphthalene	51		53		40-140	4		50
Fluorene	51		55		40-140	8		50
Phenanthrene	50		54		40-140	8		50
Anthracene	51		56		40-140	9		50
Pyrene	50		55		35-142	10		50
Benzo(a)anthracene	51		55		40-140	8		50
Chrysene	49		54		40-140	10		50
Benzo(b)fluoranthene	52		57		40-140	9		50
Benzo(a)pyrene	52		57		40-140	9		50
Benzo(ghi)perylene	49		55		40-140	12		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	51		52		23-120
2-Fluorobiphenyl	**26**	Q	**26**	Q	30-120
4-Terphenyl-d14	27		28		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236817

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 19-20 Batch: WG1661883-2 WG1661883-3								
Naphthalene	50		123		40-140	**84**	Q	40
Fluorene	51		125		40-140	**84**	Q	40
Phenanthrene	50		123		40-140	**84**	Q	40
Anthracene	50		123		40-140	**84**	Q	40
Pyrene	51		**129**	Q	26-127	**87**	Q	40
Benzo(a)anthracene	48		123		40-140	**88**	Q	40
Chrysene	49		124		40-140	**87**	Q	40
Benzo(b)fluoranthene	52		138		40-140	**91**	Q	40
Benzo(a)pyrene	49		134		40-140	**93**	Q	40
Benzo(ghi)perylene	52		137		40-140	**90**	Q	40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	24		28		23-120
2-Fluorobiphenyl	25		30		15-120
4-Terphenyl-d14	**26**	Q	**32**	Q	41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236817

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 10 Batch: WG1662493-2 WG1662493-3								
Naphthalene	81		83		40-140	2		50
Fluorene	85		87		40-140	2		50
Phenanthrene	86		86		40-140	0		50
Anthracene	89		89		40-140	0		50
Pyrene	88		87		35-142	1		50
Benzo(a)anthracene	93		93		40-140	0		50
Chrysene	92		92		40-140	0		50
Benzo(b)fluoranthene	100		99		40-140	1		50
Benzo(a)pyrene	102		102		40-140	0		50
Benzo(ghi)perylene	90		92		40-140	2		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	87		89		23-120
2-Fluorobiphenyl	79		79		30-120
4-Terphenyl-d14	88		85		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-01
Client ID: PB-843-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.06		mg/kg	2.08	0.112	1	07/13/22 09:00	07/15/22 22:51	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-02
Client ID: PB-843-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.63		mg/kg	2.26	0.121	1	07/13/22 09:00	07/15/22 21:42	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-03
Client ID: PB-843-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 10:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.17		mg/kg	4.48	0.240	2	07/13/22 09:00	07/16/22 00:41	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-04
Client ID: PB-843-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.30		mg/kg	2.21	0.118	1	07/13/22 09:00	07/15/22 21:52	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-05
Client ID: PB-843-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.83		mg/kg	2.25	0.120	1	07/13/22 09:00	07/15/22 22:38	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-06
Client ID: PB-843-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	8.48		mg/kg	2.15	0.115	1	07/13/22 09:00	07/15/22 22:42	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-07
Client ID: PB-843-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 11:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.21		mg/kg	2.08	0.112	1	07/13/22 09:00	07/15/22 22:47	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-08
Client ID: PB-843-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 13:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	11.0		mg/kg	2.38	0.128	1	07/13/22 09:00	07/15/22 23:27	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-09
Client ID: PB-843-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 13:10
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	11.2		mg/kg	2.24	0.120	1	07/13/22 09:00	07/15/22 23:32	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-10
Client ID: PB-843-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 13:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.02		mg/kg	2.08	0.112	1	07/13/22 09:00	07/15/22 23:36	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-11
Client ID: PB-843-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 14:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.99		mg/kg	2.03	0.109	1	07/13/22 09:00	07/15/22 23:41	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-12
Client ID: PB-843-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 14:15
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.41		mg/kg	2.18	0.117	1	07/13/22 09:00	07/15/22 23:46	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-13
Client ID: PB-843-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 14:25
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.13		mg/kg	2.22	0.119	1	07/13/22 09:00	07/15/22 23:50	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-14
Client ID: PB-843-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 14:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	14.2		mg/kg	2.21	0.118	1	07/13/22 09:00	07/15/22 23:55	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-15
Client ID: PB-843-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 14:50
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	92.0		mg/kg	2.26	0.121	1	07/13/22 09:00	07/16/22 00:00	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-16
Client ID: PB-843-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 15:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	18.3		mg/kg	2.32	0.125	1	07/13/22 09:00	07/16/22 00:04	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-17
Client ID: PB-843-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 15:20
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	48.6		mg/kg	4.56	0.244	2	07/13/22 09:00	07/17/22 13:18	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236817
Project Number: 200.00135.006
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-18
Client ID: DUP-40
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	18.0		mg/kg	4.67	0.250	2	07/13/22 09:00	07/17/22 13:23	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-19
Client ID: FB-071122-3
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Water

Date Collected: 07/11/22 15:30
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/12/22 12:16	07/13/22 23:11	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-20
Client ID: FB-071122-4
Sample Location: PHILADELPHIA, PA
Date Collected: 07/11/22 15:35
Date Received: 07/11/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/12/22 12:16	07/13/22 23:17	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 19-20 Batch: WG1661768-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/12/22 12:16	07/13/22 21:46	1,6020B	SV

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-18 Batch: WG1661855-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/13/22 09:00	07/15/22 22:29	1,6010D	BV

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236817

Report Date: 07/18/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 Batch: WG1661768-2								
Lead, Total	98		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-18 Batch: WG1661855-2 SRM Lot Number: D113-540								
Lead, Total	84		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236817
Report Date: 07/18/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 QC Batch ID: WG1661768-3 QC Sample: L2236831-01 Client ID: MS Sample												
Lead, Total	488.2	530	818.1	**62**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-18 QC Batch ID: WG1661855-3 QC Sample: L2236817-01 Client ID: PB-843-03-SS01												
Lead, Total	3.06	43.6	42.1	89		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236817

Report Date: 07/18/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 QC Batch ID: WG1661768-4 QC Sample: L2236831-01 Client ID: DUP Sample						
Lead, Total	488.2	359.8	ug/l	**30**	Q	20
Total Metals - Mansfield Lab Associated sample(s): 01-18 QC Batch ID: WG1661855-4 QC Sample: L2236817-01 Client ID: PB-843-03-SS01						
Lead, Total	3.06	3.18	mg/kg	4		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Serial Dilution Analysis
Batch Quality Control

Lab Number: L2236817
Report Date: 07/18/22

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 QC Batch ID: WG1661768-6 QC Sample: L2236831-01 Client ID: DUP Sample						
Lead, Total	488.2	429.6	ug/l	12		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-01
Client ID: PB-843-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/11/22 10:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.8		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-02
Client ID: PB-843-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/11/22 10:20
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.5		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-03
Client ID: PB-843-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/11/22 10:50
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.6		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-04
Client ID: PB-843-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 11:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.7		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-05
Client ID: PB-843-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 11:10
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.4		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-06
Client ID: PB-843-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/11/22 11:20
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.2		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-07
Client ID: PB-843-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 11:35
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.2		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-08
Client ID: PB-843-17-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 13:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.5		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-09
Client ID: PB-843-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 13:10
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.6		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-10
Client ID: PB-843-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 13:20
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.5		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-11
Client ID: PB-843-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 14:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.7		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-12
Client ID: PB-843-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 14:15
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.4		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-13
Client ID: PB-843-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/11/22 14:25
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.2		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-14
Client ID: PB-843-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 14:35
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.3		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-15
Client ID: PB-843-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 14:50
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.5		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-16
Client ID: PB-843-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 15:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.8		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-17
Client ID: PB-843-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 15:20
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.9		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236817
Report Date: 07/18/22

SAMPLE RESULTS

Lab ID: L2236817-18
Client ID: DUP-40
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/11/22 00:00
Date Received: 07/11/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.3		%	0.100	NA	1	-	07/12/22 11:39	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236817

Report Date: 07/18/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-18 QC Batch ID: WG1661670-1 QC Sample: L2236817-01 Client ID: PB-843-03-SS01						
Solids, Total	93.8	93.7	%	0		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236817
Report Date: 07/18/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236817-01A	Vial MeOH preserved	C	NA		2.8	Y	Absent		PA-8260HLW(14)
L2236817-01B	Vial water preserved	C	NA		2.8	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-01C	Vial water preserved	C	NA		2.8	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-01D	Plastic 2oz unpreserved for TS	C	NA		2.8	Y	Absent		TS(7)
L2236817-01E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.8	Y	Absent		PB-TI(180)
L2236817-01F	Glass 120ml/4oz unpreserved	C	NA		2.8	Y	Absent		PA-PAH(14)
L2236817-02A	Vial MeOH preserved	C	NA		2.8	Y	Absent		PA-8260HLW(14)
L2236817-02B	Vial water preserved	C	NA		2.8	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-02C	Vial water preserved	C	NA		2.8	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-02D	Plastic 2oz unpreserved for TS	C	NA		2.8	Y	Absent		TS(7)
L2236817-02E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.8	Y	Absent		PB-TI(180)
L2236817-02F	Glass 120ml/4oz unpreserved	C	NA		2.8	Y	Absent		PA-PAH(14)
L2236817-03A	Vial MeOH preserved	C	NA		2.8	Y	Absent		PA-8260HLW(14)
L2236817-03B	Vial water preserved	C	NA		2.8	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-03C	Vial water preserved	C	NA		2.8	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-03D	Plastic 2oz unpreserved for TS	C	NA		2.8	Y	Absent		TS(7)
L2236817-03E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.8	Y	Absent		PB-TI(180)
L2236817-03F	Glass 120ml/4oz unpreserved	C	NA		2.8	Y	Absent		PA-PAH(14)
L2236817-04A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2236817-04B	Vial water preserved	B	NA		3.5	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-04C	Vial water preserved	B	NA		3.5	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236817
Report Date: 07/18/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236817-04D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L2236817-04E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		PB-TI(180)
L2236817-04F	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		PA-PAH(14)
L2236817-05A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2236817-05B	Vial water preserved	B	NA		3.5	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-05C	Vial water preserved	B	NA		3.5	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-05D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L2236817-05E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		PB-TI(180)
L2236817-05F	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		PA-PAH(14)
L2236817-06A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2236817-06B	Vial water preserved	B	NA		3.5	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-06C	Vial water preserved	B	NA		3.5	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-06D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L2236817-06E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		PB-TI(180)
L2236817-06F	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		PA-PAH(14)
L2236817-07A	Vial MeOH preserved	B	NA		3.5	Y	Absent		PA-8260HLW(14)
L2236817-07B	Vial water preserved	B	NA		3.5	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-07C	Vial water preserved	B	NA		3.5	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-07D	Plastic 2oz unpreserved for TS	B	NA		3.5	Y	Absent		TS(7)
L2236817-07E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.5	Y	Absent		PB-TI(180)
L2236817-07F	Glass 120ml/4oz unpreserved	B	NA		3.5	Y	Absent		PA-PAH(14)
L2236817-08A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-08B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-08C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-08D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-08E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-08F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-09A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236817
Report Date: 07/18/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236817-09B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-09C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-09D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-09E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-09F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-10A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-10B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-10C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-10D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-10E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-10F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-11A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-11B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-11C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-11D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-11E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-11F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-12A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-12B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-12C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-12D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-12E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-12F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-13A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-13B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-13C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:20	PA-8260HLW(14)
L2236817-13D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-13E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236817
Report Date: 07/18/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236817-13F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-14A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-14B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)
L2236817-14C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)
L2236817-14D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-14E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-14F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-15A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-15B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)
L2236817-15C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)
L2236817-15D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-15E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-15F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-16A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-16B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)
L2236817-16C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)
L2236817-16D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-16E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-16F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-17A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-17B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)
L2236817-17C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)
L2236817-17D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-17E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-17F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-18A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2236817-18B	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)
L2236817-18C	Vial water preserved	A	NA		4.6	Y	Absent	12-JUL-22 07:22	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236817
Report Date: 07/18/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236817-18D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2236817-18E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2236817-18F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2236817-19A	Vial HCl preserved	A	NA		4.6	Y	Absent		8011(14),PA-8260(14)
L2236817-19B	Vial HCl preserved	A	NA		4.6	Y	Absent		8011(14),PA-8260(14)
L2236817-19C	Vial HCl preserved	A	NA		4.6	Y	Absent		8011(14),PA-8260(14)
L2236817-19D	Amber 250ml unpreserved	A	7	7	4.6	Y	Absent		PA-PAHSIM-LVI(7)
L2236817-19E	Amber 250ml unpreserved	A	7	7	4.6	Y	Absent		PA-PAHSIM-LVI(7)
L2236817-19F	Plastic 250ml HNO3 preserved	A	<2	<2	4.6	Y	Absent		PB-6020T-PPB(180)
L2236817-20A	Vial HCl preserved	A	NA		4.6	Y	Absent		8011(14),PA-8260(14)
L2236817-20B	Vial HCl preserved	A	NA		4.6	Y	Absent		8011(14),PA-8260(14)
L2236817-20C	Vial HCl preserved	A	NA		4.6	Y	Absent		8011(14),PA-8260(14)
L2236817-20D	Amber 250ml unpreserved	A	7	7	4.6	Y	Absent		PA-PAHSIM-LVI(7)
L2236817-20E	Amber 250ml unpreserved	A	7	7	4.6	Y	Absent		PA-PAHSIM-LVI(7)
L2236817-20F	Plastic 250ml HNO3 preserved	A	<2	<2	4.6	Y	Absent		PB-6020T-PPB(180)
L2236817-21A	Vial HCl preserved	C	NA		2.8	Y	Absent		8011(14),PA-8260(14)
L2236817-21B	Vial HCl preserved	C	NA		2.8	Y	Absent		8011(14),PA-8260(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236817
Project Number:	200.00135.006	**Report Date:**	07/18/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236817
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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236817
Project Number:	200.00135.006	**Report Date:**	07/18/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236817
Project Number:	200.00135.006	**Report Date:**	07/18/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 3

Date Rec'd in Lab: 7/12/22

ALPHA Job #: L2236817

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193

Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client Info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS: SHORTLIST 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TOTAL # BOTTLES	Sample Specific Comments
36817 1	PB-843-03-5501	7/11	1000	S	TS		
2	PB-843-04-5501		1020				
3	PB-843-05-5501		1050				
4	PB-843-10-5501		1100				
5	PB-843-11-5501		1110				
6	PB-843-12-5501		1120				
7	PB-843-13-5501		1135				
8	PB-843-17-5501		1300				
9	PB-843-14-5501		1310				
10	PB-843-01-5501		1320				

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/11 16:24		7/11/22 16:24
	7/12/22		7/11 18:30
	7/11 2000		7/11/22 0140
	7/11/22		

7/12/22 0220

7/12/22 0220

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(HW) (rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/12/22

ALPHA Job #: L2236817

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SHORTLIST 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36817 11	PB-843-08-5501	7/11	1400	S	TS	
12	PB-843-02-5501		1415	S	TS	
13	PB-843-06-5501		1425	S	TS	
14	PB-843-07-5501		1435	S	TS	
15	PB-843-15-5501		1450	S	TS	
16	PB-843-09-5501		1500	S	TS	
17	PB-843-16-5501		1520	S	TS	
18	DUP-40		-	S	TS	
19	FB-071122-3		1530	W	TS	
20	FB-071122-4		1535	W	TS	

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/11 16:24		7/11/22 16:24
	7/11/22 2103		7/11/22 2103
7/12/22 0220			
7/12/22 0230		7/12/22 0230	

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(LG) (rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 3 OF 3

Date Rec'd in Lab: 7/12/22

ALPHA Job #: L2236817

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Vol Petrol SL 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36817 21	TB-071122	7/11	-	W	TS	

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
	7/12/22 0220		
	7/12/22 1610		7/11/22 1424
	7/12/22 2100		7/11-12 2100
	7/13/22 0220		7/12/22 0030

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

PADEP Short List Analytical Suites per Table III-5:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

ANALYTICAL REPORT

Lab Number:	L2236962
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/19/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236962
Report Date: 07/19/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2236962-01	PB-881-01-SS01	SOIL	PHILADELPHIA, PA	07/12/22 10:00	07/12/22
L2236962-02	PB-881-02-SS01	SOIL	PHILADELPHIA, PA	07/12/22 10:10	07/12/22
L2236962-03	PB-881-03-SS01	SOIL	PHILADELPHIA, PA	07/12/22 10:20	07/12/22
L2236962-04	PB-881-04-SS01	SOIL	PHILADELPHIA, PA	07/12/22 10:30	07/12/22
L2236962-05	PB-881-05-SS01	SOIL	PHILADELPHIA, PA	07/12/22 10:40	07/12/22
L2236962-06	PB-881-06-SS01	SOIL	PHILADELPHIA, PA	07/12/22 10:50	07/12/22
L2236962-07	PB-881-07-SS01	SOIL	PHILADELPHIA, PA	07/12/22 11:00	07/12/22
L2236962-08	PB-881-08-SS01	SOIL	PHILADELPHIA, PA	07/12/22 11:10	07/12/22
L2236962-09	PB-881-09-SS01	SOIL	PHILADELPHIA, PA	07/12/22 11:20	07/12/22
L2236962-10	PB-881-10-SS01	SOIL	PHILADELPHIA, PA	07/12/22 11:30	07/12/22
L2236962-11	PB-881-11-SS01	SOIL	PHILADELPHIA, PA	07/12/22 11:40	07/12/22
L2236962-12	PB-881-12-SS01	SOIL	PHILADELPHIA, PA	07/12/22 11:50	07/12/22
L2236962-13	PB-881-13-SS01	SOIL	PHILADELPHIA, PA	07/12/22 12:00	07/12/22
L2236962-14	PB-881-14-SS01	SOIL	PHILADELPHIA, PA	07/12/22 12:10	07/12/22
L2236962-15	PB-881-15-SS01	SOIL	PHILADELPHIA, PA	07/12/22 12:20	07/12/22
L2236962-16	PB-881-16-SS01	SOIL	PHILADELPHIA, PA	07/12/22 12:30	07/12/22
L2236962-17	PB-881-17-SS01	SOIL	PHILADELPHIA, PA	07/12/22 12:40	07/12/22
L2236962-18	PB-881-18-SS01	SOIL	PHILADELPHIA, PA	07/12/22 12:50	07/12/22
L2236962-19	FB-071222-1	WATER	PHILADELPHIA, PA	07/12/22 14:00	07/12/22
L2236962-20	FB-071222-2	WATER	PHILADELPHIA, PA	07/12/22 14:10	07/12/22
L2236962-21	DUP-41	SOIL	PHILADELPHIA, PA	07/12/22 00:00	07/12/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236962
Project Number:	200.00135.006	**Report Date:**	07/19/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236962
Project Number:	200.00135.006	**Report Date:**	07/19/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2236962-01: The internal standard (IS) response(s) for 1,4-dichlorobenzene-d4 (43%) and the surrogate recovery for 4-bromofluorobenzene (3132%) were outside the acceptance criteria due to obvious interferences. A copy of the chromatogram is included as an attachment to this report. The sample was analyzed as a High Level Methanol in order to quantitate results within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial Low Level analysis; however, since the IS response was below method criteria, all associated compounds are considered to have a potentially high bias. The results of both analyses are reported.

L2236962-07: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (507%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236962-07: The sample was analyzed as a High Level Methanol in order to quantitate results within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial Low Level analysis. The results of both analyses are reported.

L2236962-10: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (164%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2236962-21: The sample was analyzed as a High Level Methanol in order to quantitate results within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial Low Level analysis. The results of both analyses are reported.

L2236962-21: The sample was received in the appropriate containers (vials) for the Volatile Organics by EPA Method 5035/8260 analysis; however, they could not be used for analysis. With the client's authorization, a sample aliquot was taken from an unpreserved container (inappropriate plastic) and preserved appropriately.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236962
Project Number:	200.00135.006	**Report Date:**	07/19/22

Case Narrative (continued)

L2236962-21: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (786%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Semivolatile Organics

L2236962-01D and -10D: The sample has elevated detection limits due to the dilution required by the sample matrix.

Total Metals

L2236962-03, -04, -11, -13, -14, and -16: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by matrix interferences encountered during analysis.

The WG1662480-3 MS recoveries, performed on L2236962-01, are outside the acceptance criteria for lead (51%). A post digestion spike was performed and yielded unacceptable recoveries for lead (50%). The serial dilution recovery was not applicable; therefore, this element fails the matrix test and the result reported in the native sample should be considered estimated.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Steven Gniadek

Title: Technical Director/Representative Date: 07/19/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-01
Client ID: PB-881-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 20:40
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.013	1
Benzene	ND		mg/kg	0.032	0.010	1
1,2-Dichloroethane	ND		mg/kg	0.063	0.016	1
Toluene	ND		mg/kg	0.063	0.034	1
1,2-Dibromoethane	ND		mg/kg	0.032	0.018	1
Ethylbenzene	ND		mg/kg	0.063	0.0089	1
p/m-Xylene	ND		mg/kg	0.13	0.035	1
o-Xylene	ND		mg/kg	0.063	0.018	1
Xylenes, Total	ND		mg/kg	0.063	0.018	1
Isopropylbenzene	ND		mg/kg	0.063	0.0069	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.13	0.012	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.13	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-01
Client ID: PB-881-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 11:45
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00087	0.00022	1
Toluene	ND		mg/kg	0.00087	0.00047	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	ND		mg/kg	0.00087	0.00012	1
p/m-Xylene	0.044		mg/kg	0.0017	0.00048	1
o-Xylene	0.011		mg/kg	0.00087	0.00025	1
Xylenes, Total	0.055		mg/kg	0.00087	0.00025	1
Isopropylbenzene	0.0032		mg/kg	0.00087	0.00009	1
1,3,5-Trimethylbenzene	0.091		mg/kg	0.0017	0.00017	1
1,2,4-Trimethylbenzene	0.72	E	mg/kg	0.0017	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	**3130**	Q	70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-02
Client ID: PB-881-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 09:42
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00053	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00057	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00059	1
o-Xylene	ND		mg/kg	0.0010	0.00031	1
Xylenes, Total	ND		mg/kg	0.0010	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-03
Client ID: PB-881-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:20
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 10:10
Analyst: MKS
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00093	0.00024	1
Toluene	ND		mg/kg	0.00093	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00093	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00052	1
o-Xylene	ND		mg/kg	0.00093	0.00027	1
Xylenes, Total	ND		mg/kg	0.00093	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00093	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-04
Client ID: PB-881-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 10:38
Analyst: MKS
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00021	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-05
Client ID: PB-881-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 11:07
Analyst: MKS
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0012	J	mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00098	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00028	1
Xylenes, Total	ND		mg/kg	0.00098	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-06
Client ID: PB-881-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 11:36
Analyst: MKS
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00056	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-07
Client ID: PB-881-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 21:10
Analyst: NLK
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.084	0.0085	1
Benzene	ND		mg/kg	0.021	0.0070	1
1,2-Dichloroethane	ND		mg/kg	0.042	0.011	1
Toluene	ND		mg/kg	0.042	0.023	1
1,2-Dibromoethane	ND		mg/kg	0.021	0.012	1
Ethylbenzene	ND		mg/kg	0.042	0.0060	1
p/m-Xylene	0.038	J	mg/kg	0.084	0.024	1
o-Xylene	ND		mg/kg	0.042	0.012	1
Xylenes, Total	0.038	J	mg/kg	0.042	0.012	1
Isopropylbenzene	0.0089	J	mg/kg	0.042	0.0046	1
1,3,5-Trimethylbenzene	0.22		mg/kg	0.084	0.0081	1
1,2,4-Trimethylbenzene	0.47		mg/kg	0.084	0.014	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-07
Client ID: PB-881-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 12:12
Analyst: NLK
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0015	0.00016	1
Benzene	ND		mg/kg	0.00038	0.00013	1
1,2-Dichloroethane	ND		mg/kg	0.00077	0.00020	1
Toluene	ND		mg/kg	0.00077	0.00042	1
1,2-Dibromoethane	ND		mg/kg	0.00038	0.00023	1
Ethylbenzene	0.0033		mg/kg	0.00077	0.00011	1
p/m-Xylene	0.16		mg/kg	0.0015	0.00043	1
o-Xylene	0.0042		mg/kg	0.00077	0.00022	1
Xylenes, Total	0.16		mg/kg	0.00077	0.00022	1
Isopropylbenzene	0.042		mg/kg	0.00077	0.00008	1
1,3,5-Trimethylbenzene	1.1	E	mg/kg	0.0015	0.00015	1
1,2,4-Trimethylbenzene	2.1	E	mg/kg	0.0015	0.00026	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	**507**	Q	70-130
Dibromofluoromethane	107		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-08
Client ID: PB-881-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 12:04
Analyst: MKS
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00063	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00065	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-09
Client ID: PB-881-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:20
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 12:32
Analyst: MKS
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00024	1
Benzene	ND		mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00064	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00066	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-10
Client ID: PB-881-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 17:42
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.21	0.021	1
Benzene	ND		mg/kg	0.052	0.017	1
1,2-Dichloroethane	ND		mg/kg	0.10	0.027	1
Toluene	ND		mg/kg	0.10	0.057	1
1,2-Dibromoethane	ND		mg/kg	0.052	0.031	1
Ethylbenzene	0.067	J	mg/kg	0.10	0.015	1
p/m-Xylene	0.37		mg/kg	0.21	0.059	1
o-Xylene	0.086	J	mg/kg	0.10	0.030	1
Xylenes, Total	0.46	J	mg/kg	0.10	0.030	1
Isopropylbenzene	0.26		mg/kg	0.10	0.011	1
1,3,5-Trimethylbenzene	3.6		mg/kg	0.21	0.020	1
1,2,4-Trimethylbenzene	9.4		mg/kg	0.21	0.035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	**164**	Q	70-130
Dibromofluoromethane	90		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-11
Client ID: PB-881-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 13:00
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00053	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00027	1
Toluene	ND		mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00060	1
o-Xylene	ND		mg/kg	0.0011	0.00031	1
Xylenes, Total	ND		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-12
Client ID: PB-881-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 13:28
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-13
Client ID: PB-881-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 13:56
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00099	0.00025	1
Toluene	ND		mg/kg	0.00099	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00099	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00099	0.00029	1
Xylenes, Total	ND		mg/kg	0.00099	0.00029	1
Isopropylbenzene	ND		mg/kg	0.00099	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-14
Client ID: PB-881-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 14:24
Analyst: MKS
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	ND		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00090	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00090	0.00026	1
Xylenes, Total	ND		mg/kg	0.00090	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-15
Client ID: PB-881-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:20
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 16:18
Analyst: MKS
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00054	J	mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00096	0.00024	1
Toluene	ND		mg/kg	0.00096	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00096	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00096	0.00028	1
Xylenes, Total	ND		mg/kg	0.00096	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00096	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-16
Client ID: PB-881-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 14:52
Analyst: MKS
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.00017	J	mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-17
Client ID: PB-881-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 15:21
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-18
Client ID: PB-881-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 15:49
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00098	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00028	1
Xylenes, Total	ND		mg/kg	0.00098	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-19
Client ID: FB-071222-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 14:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 12:18
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/14/22 14:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-19
Client ID: FB-071222-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 14:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/15/22 10:07
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	123		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-20
Client ID: FB-071222-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 14:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 12:25
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/14/22 14:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-20
Client ID: FB-071222-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 14:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/15/22 10:30
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-21
Client ID: DUP-41
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 18:11
Analyst: MKS
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.013	1
Benzene	ND		mg/kg	0.032	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.065	0.017	1
Toluene	ND		mg/kg	0.065	0.035	1
1,2-Dibromoethane	ND		mg/kg	0.032	0.019	1
Ethylbenzene	ND		mg/kg	0.065	0.0092	1
p/m-Xylene	0.037	J	mg/kg	0.13	0.036	1
o-Xylene	ND		mg/kg	0.065	0.019	1
Xylenes, Total	0.037	J	mg/kg	0.065	0.019	1
Isopropylbenzene	0.012	J	mg/kg	0.065	0.0071	1
1,3,5-Trimethylbenzene	0.45		mg/kg	0.13	0.012	1
1,2,4-Trimethylbenzene	1.0		mg/kg	0.13	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	92		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-21
Client ID: DUP-41
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 12:39
Analyst: NLK
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00099	0.00026	1
Toluene	0.0018		mg/kg	0.00099	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	0.0017		mg/kg	0.00099	0.00014	1
p/m-Xylene	0.024		mg/kg	0.0020	0.00056	1
o-Xylene	0.0026		mg/kg	0.00099	0.00029	1
Xylenes, Total	0.027		mg/kg	0.00099	0.00029	1
Isopropylbenzene	0.028		mg/kg	0.00099	0.00011	1
1,3,5-Trimethylbenzene	1.3	E	mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	0.84	E	mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	**786**	Q	70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/15/22 10:38
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/14/22 14:02

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 19-20 Batch: WG1662837-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 09:14
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-06,08-09,11-18 Batch: WG1664129-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 09:14
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 10,21 Batch: WG1664132-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 09:44
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 19-20 Batch: WG1664179-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/18/22 13:35
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01,07 Batch: WG1664660-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/19/22 11:18
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,07,21 Batch: WG1664816-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	75		70-130
Dibromofluoromethane	105		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236962

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 19-20 Batch: WG1662837-2								
1,2-Dibromoethane	102		-		80-120	-		20	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236962
Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-06,08-09,11-18 Batch: WG1664129-3 WG1664129-4								
Methyl tert butyl ether	115		114		66-130	1		30
Benzene	103		102		70-130	1		30
1,2-Dichloroethane	97		96		70-130	1		30
Toluene	103		102		70-130	1		30
1,2-Dibromoethane	104		104		70-130	0		30
Ethylbenzene	100		99		70-130	1		30
p/m-Xylene	100		99		70-130	1		30
o-Xylene	101		100		70-130	1		30
Isopropylbenzene	100		99		70-130	1		30
1,3,5-Trimethylbenzene	98		97		70-130	1		30
1,2,4-Trimethylbenzene	101		100		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	101		102		70-130
4-Bromofluorobenzene	106		106		70-130
Dibromofluoromethane	92		93		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236962
Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 10,21 Batch: WG1664132-3 WG1664132-4								
Methyl tert butyl ether	115		114		66-130	1		30
Benzene	103		102		70-130	1		30
1,2-Dichloroethane	97		96		70-130	1		30
Toluene	103		102		70-130	1		30
1,2-Dibromoethane	104		104		70-130	0		30
Ethylbenzene	100		99		70-130	1		30
p/m-Xylene	100		99		70-130	1		30
o-Xylene	101		100		70-130	1		30
Isopropylbenzene	100		99		70-130	1		30
1,3,5-Trimethylbenzene	98		97		70-130	1		30
1,2,4-Trimethylbenzene	101		100		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	101		102		70-130
4-Bromofluorobenzene	106		106		70-130
Dibromofluoromethane	92		93		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236962

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 19-20 Batch: WG1664179-3 WG1664179-4								
Methyl tert butyl ether	94		96		63-130	2		20
Benzene	94		95		70-130	1		20
1,2-Dichloroethane	93		94		70-130	1		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
Isopropylbenzene	110		120		70-130	9		20
1,3,5-Trimethylbenzene	100		110		64-130	10		20
1,2,4-Trimethylbenzene	100		110		70-130	10		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		95		70-130
Toluene-d8	110		109		70-130
4-Bromofluorobenzene	121		123		70-130
Dibromofluoromethane	91		91		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236962
Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01,07 Batch: WG1664660-3 WG1664660-4								
Methyl tert butyl ether	115		118		66-130	3		30
Benzene	108		108		70-130	0		30
1,2-Dichloroethane	96		100		70-130	4		30
Toluene	108		109		70-130	1		30
1,2-Dibromoethane	106		110		70-130	4		30
Ethylbenzene	106		107		70-130	1		30
p/m-Xylene	107		108		70-130	1		30
o-Xylene	106		108		70-130	2		30
Isopropylbenzene	111		110		70-130	1		30
1,3,5-Trimethylbenzene	107		107		70-130	0		30
1,2,4-Trimethylbenzene	107		108		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		96		70-130
Toluene-d8	102		103		70-130
4-Bromofluorobenzene	106		106		70-130
Dibromofluoromethane	91		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236962
Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,07,21 Batch: WG1664816-3 WG1664816-4								
Methyl tert butyl ether	92		91		66-130	1		30
Benzene	96		94		70-130	2		30
1,2-Dichloroethane	90		89		70-130	1		30
Toluene	95		96		70-130	1		30
1,2-Dibromoethane	98		99		70-130	1		30
Ethylbenzene	94		96		70-130	2		30
p/m-Xylene	100		101		70-130	1		30
o-Xylene	96		97		70-130	1		30
Isopropylbenzene	92		92		70-130	0		30
1,3,5-Trimethylbenzene	92		91		70-130	1		30
1,2,4-Trimethylbenzene	89		89		70-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		97		70-130
Toluene-d8	98		101		70-130
4-Bromofluorobenzene	83		82		70-130
Dibromofluoromethane	106		105		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-01 D
Client ID: PB-881-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/19/22 15:12
Analyst: JG
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.26	J	mg/kg	0.88	0.11	5
Fluorene	0.19	J	mg/kg	0.88	0.085	5
Phenanthrene	0.16	J	mg/kg	0.52	0.11	5
Anthracene	ND		mg/kg	0.52	0.17	5
Pyrene	0.15	J	mg/kg	0.52	0.087	5
Benzo(a)anthracene	ND		mg/kg	0.52	0.099	5
Chrysene	0.22	J	mg/kg	0.52	0.091	5
Benzo(b)fluoranthene	ND		mg/kg	0.52	0.15	5
Benzo(a)pyrene	ND		mg/kg	0.70	0.21	5
Benzo(ghi)perylene	ND		mg/kg	0.70	0.10	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	51		23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	66		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-02
Client ID: PB-881-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 17:07
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	91		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-03
Client ID: PB-881-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:20
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 17:31
Analyst: EK
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	1.2		mg/kg	0.17	0.021	1
Fluorene	0.51		mg/kg	0.17	0.017	1
Phenanthrene	1.0		mg/kg	0.10	0.021	1
Anthracene	0.097	J	mg/kg	0.10	0.033	1
Pyrene	0.15		mg/kg	0.10	0.017	1
Benzo(a)anthracene	0.040	J	mg/kg	0.10	0.019	1
Chrysene	0.20		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	91		30-120
4-Terphenyl-d14	95		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-04
Client ID: PB-881-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 17:55
Analyst: EK
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.048	J	mg/kg	0.19	0.023	1
Fluorene	0.018	J	mg/kg	0.19	0.018	1
Phenanthrene	0.21		mg/kg	0.11	0.023	1
Anthracene	0.047	J	mg/kg	0.11	0.037	1
Pyrene	0.28		mg/kg	0.11	0.019	1
Benzo(a)anthracene	0.23		mg/kg	0.11	0.021	1
Chrysene	0.22		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	0.29		mg/kg	0.11	0.032	1
Benzo(a)pyrene	0.25		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	0.14	J	mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	71		30-120
4-Terphenyl-d14	72		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-05
Client ID: PB-881-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 18:19
Analyst: EK
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	71		30-120
4-Terphenyl-d14	77		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-06
Client ID: PB-881-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 18:43
Analyst: EK
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	64		30-120
4-Terphenyl-d14	74		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-07
Client ID: PB-881-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 19:07
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.048	J	mg/kg	0.17	0.020	1
Fluorene	0.23		mg/kg	0.17	0.016	1
Phenanthrene	0.48		mg/kg	0.10	0.020	1
Anthracene	0.040	J	mg/kg	0.10	0.033	1
Pyrene	0.064	J	mg/kg	0.10	0.017	1
Benzo(a)anthracene	0.022	J	mg/kg	0.10	0.019	1
Chrysene	0.087	J	mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.041	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	109		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	81		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-08
Client ID: PB-881-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 19:32
Analyst: EK
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	77		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-09
Client ID: PB-881-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:20
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 19:56
Analyst: EK
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	84		30-120
4-Terphenyl-d14	80		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-10 D
Client ID: PB-881-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/19/22 15:36
Analyst: JG
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	4.4		mg/kg	0.86	0.10	5
Fluorene	1.1		mg/kg	0.86	0.083	5
Phenanthrene	1.9		mg/kg	0.51	0.10	5
Anthracene	ND		mg/kg	0.51	0.17	5
Pyrene	0.23	J	mg/kg	0.51	0.085	5
Benzo(a)anthracene	0.17	J	mg/kg	0.51	0.097	5
Chrysene	0.34	J	mg/kg	0.51	0.089	5
Benzo(b)fluoranthene	ND		mg/kg	0.51	0.14	5
Benzo(a)pyrene	ND		mg/kg	0.69	0.21	5
Benzo(ghi)perylene	ND		mg/kg	0.69	0.10	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	81		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-11
Client ID: PB-881-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 20:44
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	77		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-12
Client ID: PB-881-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 21:08
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	89		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-13
Client ID: PB-881-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 21:32
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-14
Client ID: PB-881-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 21:56
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	85		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-15
Client ID: PB-881-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:20
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 22:20
Analyst: EK
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-16
Client ID: PB-881-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 22:44
Analyst: EK
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-17
Client ID: PB-881-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 23:08
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.021	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	92		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-18
Client ID: PB-881-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 23:32
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	84		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-19
Client ID: FB-071222-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 14:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/15/22 15:31
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/13/22 21:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	30		23-120
2-Fluorobiphenyl	31		15-120
4-Terphenyl-d14	**34**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-20
Client ID: FB-071222-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 14:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/15/22 15:47
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/13/22 21:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	30		23-120
2-Fluorobiphenyl	31		15-120
4-Terphenyl-d14	**31**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-21
Client ID: DUP-41
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 23:56
Analyst: EK
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.60		mg/kg	0.18	0.022	1
Fluorene	0.41		mg/kg	0.18	0.017	1
Phenanthrene	0.88		mg/kg	0.11	0.022	1
Anthracene	0.063	J	mg/kg	0.11	0.035	1
Pyrene	0.10	J	mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.031	J	mg/kg	0.11	0.020	1
Chrysene	0.15		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	85		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/14/22 13:22
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 07/13/22 17:34

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-18,21 Batch: WG1662493-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.10	0.020
Anthracene	ND		mg/kg	0.10	0.032
Pyrene	ND		mg/kg	0.10	0.016
Benzo(a)anthracene	ND		mg/kg	0.10	0.019
Chrysene	ND		mg/kg	0.10	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.020

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	90		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/15/22 15:15
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/13/22 21:10

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 19-20 Batch: WG1662556-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	31		23-120
2-Fluorobiphenyl	32		15-120
4-Terphenyl-d14	**34**	Q	41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236962

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-18,21 Batch: WG1662493-2 WG1662493-3								
Naphthalene	81		83		40-140	2		50
Fluorene	85		87		40-140	2		50
Phenanthrene	86		86		40-140	0		50
Anthracene	89		89		40-140	0		50
Pyrene	88		87		35-142	1		50
Benzo(a)anthracene	93		93		40-140	0		50
Chrysene	92		92		40-140	0		50
Benzo(b)fluoranthene	100		99		40-140	1		50
Benzo(a)pyrene	102		102		40-140	0		50
Benzo(ghi)perylene	90		92		40-140	2		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	87		89		23-120
2-Fluorobiphenyl	79		79		30-120
4-Terphenyl-d14	88		85		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236962

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 19-20 Batch: WG1662556-2 WG1662556-3								
Naphthalene	57		57		40-140	0		40
Fluorene	58		62		40-140	7		40
Phenanthrene	57		61		40-140	7		40
Anthracene	57		61		40-140	7		40
Pyrene	61		64		26-127	5		40
Benzo(a)anthracene	59		62		40-140	5		40
Chrysene	57		63		40-140	10		40
Benzo(b)fluoranthene	60		70		40-140	15		40
Benzo(a)pyrene	61		65		40-140	6		40
Benzo(ghi)perylene	58		61		40-140	5		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	27		29		23-120
2-Fluorobiphenyl	29		30		15-120
4-Terphenyl-d14	**30**	Q	**33**	Q	41-149

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-01
Client ID: PB-881-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 10:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.62	J	mg/kg	2.00	0.107	1	07/13/22 21:00	07/18/22 12:16	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-02
Client ID: PB-881-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 10:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.49	J	mg/kg	2.04	0.109	1	07/13/22 21:00	07/18/22 12:49	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-03
Client ID: PB-881-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 10:20
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.78	J	mg/kg	4.15	0.223	2	07/13/22 21:00	07/18/22 13:45	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-04
Client ID: PB-881-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 10:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	89.2		mg/kg	22.8	1.22	10	07/13/22 21:00	07/18/22 14:27	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-05
Client ID: PB-881-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 10:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.70		mg/kg	2.20	0.118	1	07/13/22 21:00	07/18/22 13:03	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-06
Client ID: PB-881-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 10:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.45	J	mg/kg	2.02	0.108	1	07/13/22 21:00	07/18/22 13:08	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-07
Client ID: PB-881-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.48	J	mg/kg	1.98	0.106	1	07/13/22 21:00	07/18/22 13:12	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-08
Client ID: PB-881-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.67		mg/kg	2.43	0.130	1	07/13/22 21:00	07/18/22 13:17	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-09
Client ID: PB-881-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:20
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.12		mg/kg	2.29	0.123	1	07/13/22 21:00	07/18/22 13:22	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-10
Client ID: PB-881-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.22	J	mg/kg	2.04	0.109	1	07/13/22 21:00	07/18/22 13:26	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-11
Client ID: PB-881-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.35	J	mg/kg	4.14	0.222	2	07/13/22 21:00	07/18/22 13:55	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-12
Client ID: PB-881-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.40	J	mg/kg	2.06	0.110	1	07/13/22 21:00	07/18/22 13:59	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-13
Client ID: PB-881-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 12:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.20	J	mg/kg	4.20	0.225	2	07/13/22 21:00	07/18/22 14:55	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-14
Client ID: PB-881-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 12:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.02	J	mg/kg	3.98	0.214	2	07/13/22 21:00	07/18/22 15:00	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-15
Client ID: PB-881-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 12:20
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.85		mg/kg	2.36	0.126	1	07/13/22 21:00	07/18/22 14:14	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-16
Client ID: PB-881-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 12:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	10.7		mg/kg	4.80	0.257	2	07/13/22 21:00	07/18/22 15:05	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-17
Client ID: PB-881-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 12:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.40	J	mg/kg	2.05	0.110	1	07/13/22 21:00	07/18/22 14:23	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-18
Client ID: PB-881-18-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 12:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.46	J	mg/kg	2.05	0.110	1	07/13/22 21:00	07/18/22 14:41	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-19
Client ID: FB-071222-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 14:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/13/22 17:44	07/17/22 15:49	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-20
Client ID: FB-071222-2
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 14:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/13/22 17:44	07/17/22 15:58	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236962
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-21
Client ID: DUP-41
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.48	J	mg/kg	2.05	0.110	1	07/13/22 21:00	07/18/22 14:46	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 19-20 Batch: WG1662468-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/13/22 17:44	07/17/22 14:50	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-18,21 Batch: WG1662480-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/13/22 21:00	07/18/22 11:53	1,6010D	NB

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236962

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 Batch: WG1662468-2								
Lead, Total	103		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-18,21 Batch: WG1662480-2 SRM Lot Number: D113-540								
Lead, Total	76		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236962
Report Date: 07/19/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 QC Batch ID: WG1662468-3 QC Sample: L2236962-19 Client ID: FB-071222-1												
Lead, Total	ND	530	530.0	100		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-18,21 QC Batch ID: WG1662480-3 QC Sample: L2236962-01 Client ID: PB-881-01-SS01												
Lead, Total	1.62J	43.9	22.6	**51**	Q	-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236962
Report Date: 07/19/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 19-20 QC Batch ID: WG1662468-4 QC Sample: L2236962-19 Client ID: FB-071222-1						
Lead, Total	ND	ND	ug/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-18,21 QC Batch ID: WG1662480-4 QC Sample: L2236962-01 Client ID: PB-881-01-SS01						
Lead, Total	1.62J	1.66J	mg/kg	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-01
Client ID: PB-881-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/12/22 10:00
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.9		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-02
Client ID: PB-881-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 10:10
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.9		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-03
Client ID: PB-881-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 10:20
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.2		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-04
Client ID: PB-881-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 10:30
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.0		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-05
Client ID: PB-881-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 10:40
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.8		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-06
Client ID: PB-881-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 10:50
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.8		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-07
Client ID: PB-881-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 11:00
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.4		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-08
Client ID: PB-881-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 11:10
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.6		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-09
Client ID: PB-881-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 11:20
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.0		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-10
Client ID: PB-881-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/12/22 11:30
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.1		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-11
Client ID: PB-881-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 11:40
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.5		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-12
Client ID: PB-881-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 11:50
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.8		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-13
Client ID: PB-881-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 12:00
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.2		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-14
Client ID: PB-881-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 12:10
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.1		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-15
Client ID: PB-881-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 12:20
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.4		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-16
Client ID: PB-881-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 12:30
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.9		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-17
Client ID: PB-881-17-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 12:40
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.7		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-18
Client ID: PB-881-18-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 12:50
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.8		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236962
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236962-21
Client ID: DUP-41
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.0		%	0.100	NA	1	-	07/13/22 10:35	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236962

Report Date: 07/19/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-18,21 QC Batch ID: WG1662302-1 QC Sample: L2236962-01 Client ID: PB-881-01-SS01						
Solids, Total	94.9	94.5	%	0		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236962
Report Date: 07/19/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236962-01A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2236962-01B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260H(14),PA-8260HLW(14)
L2236962-01C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260H(14),PA-8260HLW(14)
L2236962-01D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-01F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-02A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260HLW(14)
L2236962-02B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-02C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-02D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-02F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-03A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260HLW(14)
L2236962-03B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-03C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-03D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-03F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-04A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260HLW(14)
L2236962-04B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-04C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-04D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236962-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-04F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-05A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260HLW(14)
L2236962-05B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-05C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-05D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-05F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-06A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260HLW(14)
L2236962-06B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-06C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-06D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-06F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-07A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2236962-07B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260H(14),PA-8260HLW(14)
L2236962-07C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260H(14),PA-8260HLW(14)
L2236962-07D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-07E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-07F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-08A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260HLW(14)
L2236962-08B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-08C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-08D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-08E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-08F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-09A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260HLW(14)
L2236962-09B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
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Lab Number: L2236962
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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236962-09C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-09D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-09E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-09F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-10A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260HLW(14)
L2236962-10B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-10C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-10D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-10E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-10F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-11A	Vial MeOH preserved	A	NA		4.1	Y	Absent		PA-8260HLW(14)
L2236962-11B	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-11C	Vial water preserved	A	NA		4.1	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-11D	Plastic 120ml unpreserved	A	NA		4.1	Y	Absent		TS(7)
L2236962-11E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.1	Y	Absent		PB-TI(180)
L2236962-11F	Glass 120ml/4oz unpreserved	A	NA		4.1	Y	Absent		PA-PAH(14)
L2236962-12A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260HLW(14)
L2236962-12B	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-12C	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-12D	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2236962-12E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		PB-TI(180)
L2236962-12F	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		PA-PAH(14)
L2236962-13A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260HLW(14)
L2236962-13B	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-13C	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-13D	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2236962-13E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		PB-TI(180)
L2236962-13F	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		PA-PAH(14)

*Values in parentheses indicate holding time in days

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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236962-14A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260HLW(14)
L2236962-14B	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-14C	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-14D	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2236962-14E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		PB-TI(180)
L2236962-14F	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		PA-PAH(14)
L2236962-15A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260HLW(14)
L2236962-15B	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-15C	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-15D	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2236962-15E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		PB-TI(180)
L2236962-15F	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		PA-PAH(14)
L2236962-16A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260HLW(14)
L2236962-16B	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-16C	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-16D	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2236962-16E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		PB-TI(180)
L2236962-16F	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		PA-PAH(14)
L2236962-17A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260HLW(14)
L2236962-17B	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-17C	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-17D	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2236962-17E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		PB-TI(180)
L2236962-17F	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		PA-PAH(14)
L2236962-18A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260HLW(14)
L2236962-18B	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-18C	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260HLW(14)
L2236962-18D	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236962-18E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		PB-TI(180)
L2236962-18F	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		PA-PAH(14)
L2236962-19A	Vial HCl preserved	B	NA		3.8	Y	Absent		PA-8260(14)
L2236962-19B	Vial HCl preserved	B	NA		3.8	Y	Absent		PA-8260(14)
L2236962-19C	Vial HCl preserved	B	NA		3.8	Y	Absent		8011(14)
L2236962-19D	Plastic 250ml HNO3 preserved	B	<2	<2	3.8	Y	Absent		PB-6020T-PPB(180)
L2236962-19E	Amber 250ml unpreserved	B	7	7	3.8	Y	Absent		PA-PAHSIM-LVI(7)
L2236962-19F	Amber 250ml unpreserved	B	7	7	3.8	Y	Absent		PA-PAHSIM-LVI(7)
L2236962-20A	Vial HCl preserved	B	NA		3.8	Y	Absent		PA-8260(14)
L2236962-20B	Vial HCl preserved	B	NA		3.8	Y	Absent		PA-8260(14)
L2236962-20C	Vial HCl preserved	B	NA		3.8	Y	Absent		8011(14)
L2236962-20D	Plastic 250ml HNO3 preserved	B	<2	<2	3.8	Y	Absent		PB-6020T-PPB(180)
L2236962-20E	Amber 250ml unpreserved	B	7	7	3.8	Y	Absent		PA-PAHSIM-LVI(7)
L2236962-20F	Amber 250ml unpreserved	B	7	7	3.8	Y	Absent		PA-PAHSIM-LVI(7)
L2236962-21A	Vial MeOH preserved	B	NA		3.8	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2236962-21B	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260H(14),PA-8260HLW(14)
L2236962-21C	Vial water preserved	B	NA		3.8	Y	Absent	13-JUL-22 10:30	PA-8260H(14),PA-8260HLW(14)
L2236962-21D	Plastic 120ml unpreserved	B	NA		3.8	Y	Absent		TS(7)
L2236962-21E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.8	Y	Absent		PB-TI(180)
L2236962-21F	Glass 120ml/4oz unpreserved	B	NA		3.8	Y	Absent		PA-PAH(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236962
Project Number:	200.00135.006	**Report Date:**	07/19/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236962
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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236962
Project Number:	200.00135.006	**Report Date:**	07/19/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236962
Project Number:	200.00135.006	**Report Date:**	07/19/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 3

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/13/22

ALPHA Job #: L2236962

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36962-01	PB-881-01-5501	7/12/22	1000	S	DN	
02	PB-881-02-5501		1010			
03	PB-881-03-5501		1020			
04	PB-881-04-5501		1030			
05	PB-881-05-5501		1040			
06	PB-881-06-5501		1050			
07	PB-881-07-5501		1100			
08	PB-881-08-5501		1110			
09	PB-881-09-5501		1120			
10	PB-881-10-5501		1130			

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/12/22 1455	DAL	7/12/22 1455
	7/12/22 1800		7/12/22 1800
	7/13/22 0210		7/13/22 0210
			7/13/22 0045

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(R) (rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/13/22

ALPHA Job #: L2236962

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program: Criteria

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36962-11	PB-881-11-5501	7/12/22	1140	S	CA	
12	PB-881-12-5501		1150			
13	PB-881-13-5501		1200			
14	PB-881-14-5501		1210			
15	PB-881-15-5501		1220			
16	PB-881-16-5501		1230			
17	PB-881-17-5501		1240			
18	PB-881-18-5501		1250			
19	FB-071222-1		1400	W		
20	FB-071222-2	↓	1410	↓	↓	

Container Type: G

Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
	7/12/22 1455		7/12/22 1455
	7/12/22 1801		7-12 1801
	7-12 2101		7/12/22 2100
	7/12/22 2110		7/13/22 0045

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(HC) (rev. 3-JAN-12)

CHAIN OF CUSTODY

PAGE 3 OF 3

Date Rec'd in Lab: 7/13/22

ALPHA Job #: L2236963

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5 ✓

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36962-21	DUP-41	7/12/22	—	S	AL	

Container Type: — — G — — — — — — — — —

Preservative: — — — — — — — — — — — —

Relinquished By:	Date/Time	Received By:	Date/Time
	7/12/22 1455		7/12/22 1455
	7/12/22 1810		7/12/22 1810
	7/13/22 0210		7/13/22 0215

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

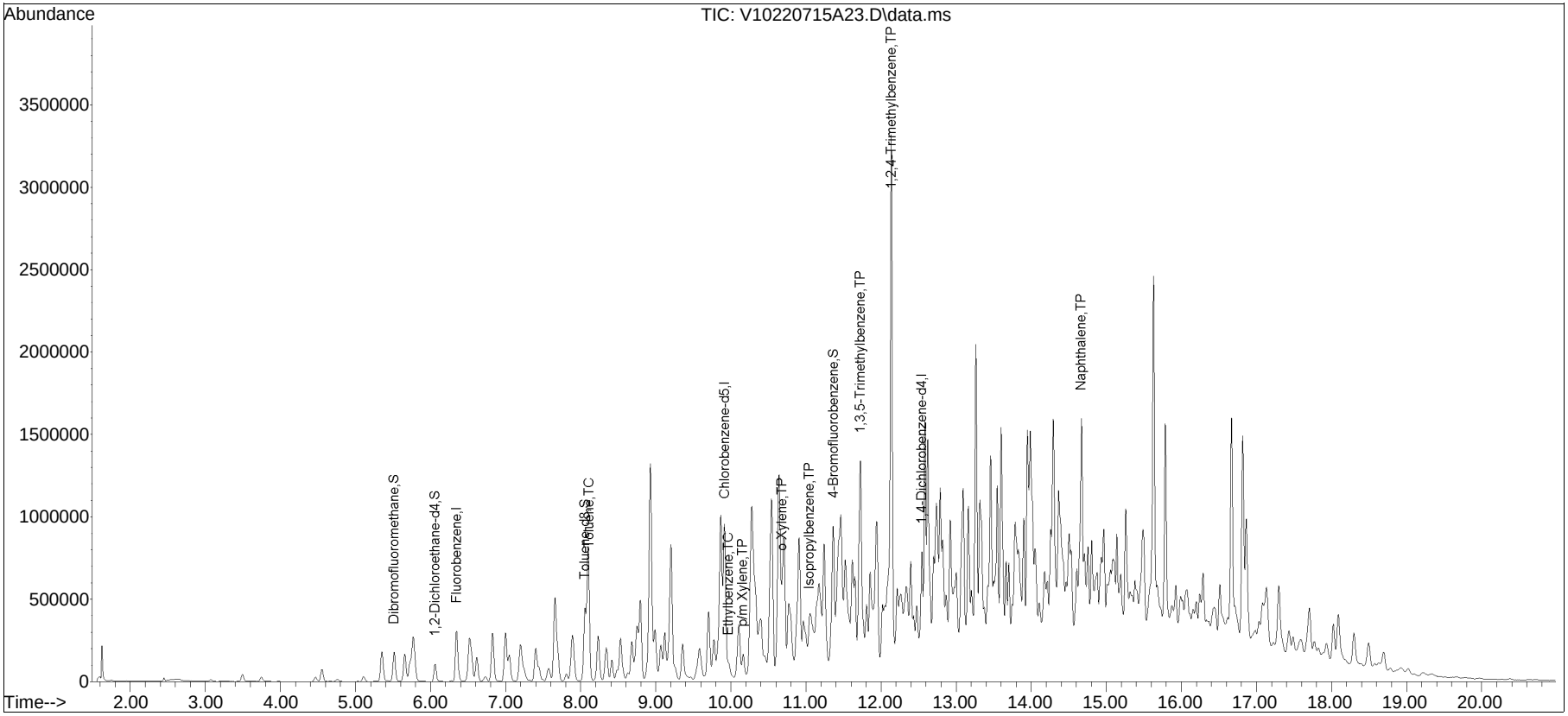
FORM NO: 01-01(LN4) (rev. 9-JAN-12)

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA110\2022\220715A\
Data File : V10220715A23.D
Acq On : 15 Jul 2022 5:42 pm
Operator : VOA110:MKS
Sample : l2236962-10,31h,2.57,5,0.100,,a,r2f
Misc : WG1664132,ICAL18890
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Jul 16 16:58:01 2022
Quant Method : I:\VOLATILES\VOA110\2022\220715A\V110_220401N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 04 06:52:50 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list15A\V10220715A01.D•



ANALYTICAL REPORT

Lab Number:	L2236966
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/19/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236966
Report Date: 07/19/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2236966-01	PB-841-01-SS01	SOIL	PHILADELPHIA, PA	07/12/22 09:30	07/12/22
L2236966-02	PB-841-02-SS01	SOIL	PHILADELPHIA, PA	07/12/22 09:50	07/12/22
L2236966-03	PB-841-03-SS01	SOIL	PHILADELPHIA, PA	07/12/22 10:10	07/12/22
L2236966-04	PB-841-04-SS01	SOIL	PHILADELPHIA, PA	07/12/22 10:30	07/12/22
L2236966-05	PB-841-05-SS01	SOIL	PHILADELPHIA, PA	07/12/22 10:50	07/12/22
L2236966-06	PB-841-06-SS01	SOIL	PHILADELPHIA, PA	07/12/22 11:10	07/12/22
L2236966-07	PB-841-07-SS01	SOIL	PHILADELPHIA, PA	07/12/22 11:30	07/12/22
L2236966-08	PB-841-08-SS01	SOIL	PHILADELPHIA, PA	07/12/22 11:50	07/12/22
L2236966-09	PB-841-09-SS01	SOIL	PHILADELPHIA, PA	07/12/22 12:10	07/12/22
L2236966-10	PB-841-10-SS01	SOIL	PHILADELPHIA, PA	07/12/22 12:30	07/12/22
L2236966-11	PB-841-11-SS01	SOIL	PHILADELPHIA, PA	07/12/22 13:30	07/12/22
L2236966-12	PB-841-12-SS01	SOIL	PHILADELPHIA, PA	07/12/22 13:40	07/12/22
L2236966-13	PB-841-13-SS01	SOIL	PHILADELPHIA, PA	07/12/22 13:55	07/12/22
L2236966-14	PB-841-14-SS01	SOIL	PHILADELPHIA, PA	07/12/22 14:30	07/12/22
L2236966-15	DUP-42	SOIL	PHILADELPHIA, PA	07/12/22 00:00	07/12/22
L2236966-16	FB-220712-3	WATER	PHILADELPHIA, PA	07/12/22 14:35	07/12/22
L2236966-17	TB-220712	WATER	PHILADELPHIA, PA	07/12/22 00:00	07/12/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236966
Project Number:	200.00135.006	**Report Date:**	07/19/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236966
Project Number:	200.00135.006	**Report Date:**	07/19/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

L2236966-17: Headspace was noted in the sample containers submitted for EDB & DBCP -Method 8011. The analysis was performed.

Microextractables

L2236966-17: Headspace was noted in the sample container utilized for analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Title: Technical Director/Representative Date: 07/19/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-01
Client ID: PB-841-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 09:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 18:39
Analyst: MKS
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0025	0.00026	1
Benzene	ND		mg/kg	0.00064	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00033	1
Toluene	ND		mg/kg	0.0013	0.00069	1
1,2-Dibromoethane	ND		mg/kg	0.00064	0.00037	1
Ethylbenzene	ND		mg/kg	0.0013	0.00018	1
p/m-Xylene	ND		mg/kg	0.0025	0.00071	1
o-Xylene	ND		mg/kg	0.0013	0.00037	1
Xylenes, Total	ND		mg/kg	0.0013	0.00037	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0025	0.00024	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0025	0.00042	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-02
Client ID: PB-841-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 09:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 16:48
Analyst: LAC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00060	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00065	1
1,2-Dibromoethane	ND		mg/kg	0.00060	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00067	1
o-Xylene	ND		mg/kg	0.0012	0.00035	1
Xylenes, Total	ND		mg/kg	0.0012	0.00035	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00040	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-03
Client ID: PB-841-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 17:15
Analyst: LAC
Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00031	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00060	1
o-Xylene	ND		mg/kg	0.0011	0.00031	1
Xylenes, Total	ND		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-04
Client ID: PB-841-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 17:42
Analyst: LAC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0016	0.00016	1
Benzene	ND		mg/kg	0.00039	0.00013	1
1,2-Dichloroethane	ND		mg/kg	0.00078	0.00020	1
Toluene	ND		mg/kg	0.00078	0.00042	1
1,2-Dibromoethane	ND		mg/kg	0.00039	0.00023	1
Ethylbenzene	ND		mg/kg	0.00078	0.00011	1
p/m-Xylene	ND		mg/kg	0.0016	0.00044	1
o-Xylene	ND		mg/kg	0.00078	0.00023	1
Xylenes, Total	ND		mg/kg	0.00078	0.00023	1
Isopropylbenzene	ND		mg/kg	0.00078	0.00008	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0016	0.00015	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0016	0.00026	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-05
Client ID: PB-841-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 18:09
Analyst: LAC
Percent Solids: 98%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00060	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00066	1
1,2-Dibromoethane	ND		mg/kg	0.00060	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00068	1
o-Xylene	ND		mg/kg	0.0012	0.00035	1
Xylenes, Total	ND		mg/kg	0.0012	0.00035	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00040	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	107		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-06
Client ID: PB-841-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 18:36
Analyst: LAC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00059	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00064	1
1,2-Dibromoethane	ND		mg/kg	0.00059	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00066	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-07
Client ID: PB-841-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 19:02
Analyst: LAC
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0035	0.00035	1
Benzene	ND		mg/kg	0.00087	0.00029	1
1,2-Dichloroethane	ND		mg/kg	0.0017	0.00045	1
Toluene	ND		mg/kg	0.0017	0.00095	1
1,2-Dibromoethane	ND		mg/kg	0.00087	0.00051	1
Ethylbenzene	ND		mg/kg	0.0017	0.00025	1
p/m-Xylene	ND		mg/kg	0.0035	0.00098	1
o-Xylene	ND		mg/kg	0.0017	0.00051	1
Xylenes, Total	ND		mg/kg	0.0017	0.00051	1
Isopropylbenzene	ND		mg/kg	0.0017	0.00019	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0035	0.00034	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0035	0.00058	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	85		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-08
Client ID: PB-841-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 19:28
Analyst: LAC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0026	0.00026	1
Benzene	ND		mg/kg	0.00065	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00033	1
Toluene	ND		mg/kg	0.0013	0.00071	1
1,2-Dibromoethane	ND		mg/kg	0.00065	0.00038	1
Ethylbenzene	ND		mg/kg	0.0013	0.00018	1
p/m-Xylene	ND		mg/kg	0.0026	0.00073	1
o-Xylene	ND		mg/kg	0.0013	0.00038	1
Xylenes, Total	ND		mg/kg	0.0013	0.00038	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0026	0.00025	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0026	0.00044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-09
Client ID: PB-841-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 12:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 19:54
Analyst: LAC
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0055	0.00055	1
Benzene	ND		mg/kg	0.0014	0.00045	1
1,2-Dichloroethane	ND		mg/kg	0.0027	0.00070	1
Toluene	ND		mg/kg	0.0027	0.0015	1
1,2-Dibromoethane	ND		mg/kg	0.0014	0.00080	1
Ethylbenzene	ND		mg/kg	0.0027	0.00039	1
p/m-Xylene	ND		mg/kg	0.0055	0.0015	1
o-Xylene	ND		mg/kg	0.0027	0.00080	1
Xylenes, Total	ND		mg/kg	0.0027	0.00080	1
Isopropylbenzene	ND		mg/kg	0.0027	0.00030	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0055	0.00053	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0055	0.00091	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-10
Client ID: PB-841-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 20:21
Analyst: LAC
Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00061	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00066	1
1,2-Dibromoethane	ND		mg/kg	0.00061	0.00036	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00068	1
o-Xylene	ND		mg/kg	0.0012	0.00035	1
Xylenes, Total	ND		mg/kg	0.0012	0.00035	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00024	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00041	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	85		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-11
Client ID: PB-841-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 13:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/15/22 20:47
Analyst: LAC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0028	0.00028	1
Benzene	ND		mg/kg	0.00069	0.00023	1
1,2-Dichloroethane	ND		mg/kg	0.0014	0.00035	1
Toluene	ND		mg/kg	0.0014	0.00075	1
1,2-Dibromoethane	ND		mg/kg	0.00069	0.00040	1
Ethylbenzene	ND		mg/kg	0.0014	0.00019	1
p/m-Xylene	ND		mg/kg	0.0028	0.00077	1
o-Xylene	ND		mg/kg	0.0014	0.00040	1
Xylenes, Total	ND		mg/kg	0.0014	0.00040	1
Isopropylbenzene	ND		mg/kg	0.0014	0.00015	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0028	0.00027	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0028	0.00046	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-12
Client ID: PB-841-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 13:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/17/22 21:41
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	0.00020	J	mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00092	0.00024	1
Toluene	ND		mg/kg	0.00092	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00092	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00052	1
o-Xylene	ND		mg/kg	0.00092	0.00027	1
Xylenes, Total	ND		mg/kg	0.00092	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00092	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-13
Client ID: PB-841-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 13:55
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/16/22 16:50
Analyst: NLK
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0035	0.00035	1
Benzene	ND		mg/kg	0.00086	0.00029	1
1,2-Dichloroethane	ND		mg/kg	0.0017	0.00044	1
Toluene	ND		mg/kg	0.0017	0.00094	1
1,2-Dibromoethane	ND		mg/kg	0.00086	0.00051	1
Ethylbenzene	ND		mg/kg	0.0017	0.00024	1
p/m-Xylene	ND		mg/kg	0.0035	0.00097	1
o-Xylene	ND		mg/kg	0.0017	0.00050	1
Xylenes, Total	ND		mg/kg	0.0017	0.00050	1
Isopropylbenzene	ND		mg/kg	0.0017	0.00019	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0035	0.00033	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0035	0.00058	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-14
Client ID: PB-841-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 14:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/16/22 17:10
Analyst: NLK
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00024	1
Benzene	0.00032	J	mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00063	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00065	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-15
Client ID: DUP-42
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/16/22 17:30
Analyst: NLK
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00059	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00064	1
1,2-Dibromoethane	ND		mg/kg	0.00059	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00066	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-16
Client ID: FB-220712-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 14:35
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 12:32
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/14/22 14:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-16
Client ID: FB-220712-3
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 14:35
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/15/22 10:53
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-17
Client ID: TB-220712
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 12:38
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/14/22 14:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-17
Client ID: TB-220712
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/15/22 11:16
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/15/22 10:38
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/14/22 14:02

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 16-17 Batch: WG1662837-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 11:31
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-11 Batch: WG1663911-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 09:14
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1664129-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/16/22 14:32
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 13-15 Batch: WG1664163-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 09:44
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 16-17 Batch: WG1664179-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/17/22 15:00
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 12 Batch: WG1664220-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	104		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 16-17 Batch: WG1662837-2								
1,2-Dibromoethane	102		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-11 Batch: WG1663911-3 WG1663911-4								
Methyl tert butyl ether	84		81		66-130	4		30
Benzene	84		79		70-130	6		30
1,2-Dichloroethane	84		81		70-130	4		30
Toluene	84		79		70-130	6		30
1,2-Dibromoethane	92		87		70-130	6		30
Ethylbenzene	84		79		70-130	6		30
p/m-Xylene	89		83		70-130	7		30
o-Xylene	87		83		70-130	5		30
Isopropylbenzene	82		78		70-130	5		30
1,3,5-Trimethylbenzene	82		79		70-130	4		30
1,2,4-Trimethylbenzene	81		78		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		99		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	83		83		70-130
Dibromofluoromethane	106		103		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236966
Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1664129-3 WG1664129-4								
Methyl tert butyl ether	115		114		66-130	1		30
Benzene	103		102		70-130	1		30
1,2-Dichloroethane	97		96		70-130	1		30
Toluene	103		102		70-130	1		30
1,2-Dibromoethane	104		104		70-130	0		30
Ethylbenzene	100		99		70-130	1		30
p/m-Xylene	100		99		70-130	1		30
o-Xylene	101		100		70-130	1		30
Isopropylbenzene	100		99		70-130	1		30
1,3,5-Trimethylbenzene	98		97		70-130	1		30
1,2,4-Trimethylbenzene	101		100		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	101		102		70-130
4-Bromofluorobenzene	106		106		70-130
Dibromofluoromethane	92		93		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 13-15 Batch: WG1664163-3 WG1664163-4								
Methyl tert butyl ether	91		88		66-130	3		30
Benzene	82		78		70-130	5		30
1,2-Dichloroethane	87		84		70-130	4		30
Toluene	75		72		70-130	4		30
1,2-Dibromoethane	85		82		70-130	4		30
Ethylbenzene	81		77		70-130	5		30
p/m-Xylene	82		78		70-130	5		30
o-Xylene	84		81		70-130	4		30
Isopropylbenzene	82		77		70-130	6		30
1,3,5-Trimethylbenzene	83		79		70-130	5		30
1,2,4-Trimethylbenzene	82		78		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		102		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	99		99		70-130
Dibromofluoromethane	101		101		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16-17 Batch: WG1664179-3 WG1664179-4								
Methyl tert butyl ether	94		96		63-130	2		20
Benzene	94		95		70-130	1		20
1,2-Dichloroethane	93		94		70-130	1		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
Isopropylbenzene	110		120		70-130	9		20
1,3,5-Trimethylbenzene	100		110		64-130	10		20
1,2,4-Trimethylbenzene	100		110		70-130	10		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		95		70-130
Toluene-d8	110		109		70-130
4-Bromofluorobenzene	121		123		70-130
Dibromofluoromethane	91		91		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 12 Batch: WG1664220-3 WG1664220-4								
Methyl tert butyl ether	89		89		66-130	0		30
Benzene	94		94		70-130	0		30
1,2-Dichloroethane	89		88		70-130	1		30
Toluene	94		96		70-130	2		30
1,2-Dibromoethane	94		98		70-130	4		30
Ethylbenzene	94		94		70-130	0		30
p/m-Xylene	98		99		70-130	1		30
o-Xylene	94		96		70-130	2		30
Isopropylbenzene	91		90		70-130	1		30
1,3,5-Trimethylbenzene	90		89		70-130	1		30
1,2,4-Trimethylbenzene	88		87		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		99		70-130
Toluene-d8	99		101		70-130
4-Bromofluorobenzene	83		82		70-130
Dibromofluoromethane	106		103		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-01
Client ID: PB-841-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 09:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 23:26
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	86		30-120
4-Terphenyl-d14	94		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-02
Client ID: PB-841-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 09:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 22:19
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	95		23-120
2-Fluorobiphenyl	91		30-120
4-Terphenyl-d14	101		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-03
Client ID: PB-841-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 22:41
Analyst: EK
Percent Solids: 97%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.020	1
Fluorene	ND		mg/kg	0.17	0.016	1
Phenanthrene	ND		mg/kg	0.10	0.020	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028	1
Benzo(a)pyrene	ND		mg/kg	0.13	0.041	1
Benzo(ghi)perylene	ND		mg/kg	0.13	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	97		23-120
2-Fluorobiphenyl	93		30-120
4-Terphenyl-d14	98		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-04
Client ID: PB-841-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 23:48
Analyst: EK
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	82		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-05
Client ID: PB-841-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 10:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 21:12
Analyst: EK
Percent Solids: 98%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.020	1
Fluorene	ND		mg/kg	0.17	0.016	1
Phenanthrene	ND		mg/kg	0.10	0.020	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.017	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028	1
Benzo(a)pyrene	ND		mg/kg	0.13	0.041	1
Benzo(ghi)perylene	ND		mg/kg	0.13	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	76		30-120
4-Terphenyl-d14	91		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-06
Client ID: PB-841-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 00:11
Analyst: EK
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-07
Client ID: PB-841-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 01:40
Analyst: EK
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.21	0.025	1
Fluorene	ND		mg/kg	0.21	0.020	1
Phenanthrene	0.032	J	mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	0.038	J	mg/kg	0.12	0.021	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.022	1
Benzo(b)fluoranthene	0.037	J	mg/kg	0.12	0.035	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	72		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-08
Client ID: PB-841-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 11:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 00:33
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	79		30-120
4-Terphenyl-d14	88		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-09
Client ID: PB-841-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 00:56
Analyst: EK
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	0.026	J	mg/kg	0.19	0.018	1
Phenanthrene	0.20		mg/kg	0.11	0.023	1
Anthracene	0.062	J	mg/kg	0.11	0.036	1
Pyrene	0.35		mg/kg	0.11	0.019	1
Benzo(a)anthracene	0.22		mg/kg	0.11	0.021	1
Chrysene	0.22		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.28		mg/kg	0.11	0.032	1
Benzo(a)pyrene	0.23		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	0.11	J	mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	70		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-10
Client ID: PB-841-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 12:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 21:34
Analyst: EK
Percent Solids: 97%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.016	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.041	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	89		30-120
4-Terphenyl-d14	89		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-11
Client ID: PB-841-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 13:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 23:04
Analyst: EK
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.021	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	85		30-120
4-Terphenyl-d14	88		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-12
Client ID: PB-841-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 13:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 01:18
Analyst: EK
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.022	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-13
Client ID: PB-841-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 13:55
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/19/22 15:24
Analyst: JG
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	0.036	J	mg/kg	0.18	0.017	1
Phenanthrene	0.39		mg/kg	0.11	0.022	1
Anthracene	0.088	J	mg/kg	0.11	0.034	1
Pyrene	0.41		mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.24		mg/kg	0.11	0.020	1
Chrysene	0.21		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	0.26		mg/kg	0.11	0.030	1
Benzo(a)pyrene	0.22		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	0.14		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	60		30-120
4-Terphenyl-d14	64		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-14
Client ID: PB-841-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 14:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/19/22 15:48
Analyst: JG
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	0.032	J	mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	0.054	J	mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.035	J	mg/kg	0.11	0.020	1
Chrysene	0.044	J	mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	0.061	J	mg/kg	0.11	0.031	1
Benzo(a)pyrene	0.044	J	mg/kg	0.14	0.044	1
Benzo(ghi)perylene	0.039	J	mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	66		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-15
Client ID: DUP-42
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/14/22 21:56
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.020	1
Fluorene	ND		mg/kg	0.17	0.016	1
Phenanthrene	ND		mg/kg	0.10	0.020	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028	1
Benzo(a)pyrene	ND		mg/kg	0.13	0.041	1
Benzo(ghi)perylene	ND		mg/kg	0.13	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	87		30-120
4-Terphenyl-d14	98		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-16
Client ID: FB-220712-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/12/22 14:35
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/15/22 16:03
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/13/22 21:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	32		23-120
2-Fluorobiphenyl	33		15-120
4-Terphenyl-d14	**35**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/15/22 15:15
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/13/22 21:10

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 16 Batch: WG1662556-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	31		23-120
2-Fluorobiphenyl	32		15-120
4-Terphenyl-d14	**34**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/14/22 17:49
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-15 Batch: WG1662622-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.099	0.020
Anthracene	ND		mg/kg	0.099	0.032
Pyrene	ND		mg/kg	0.099	0.016
Benzo(a)anthracene	ND		mg/kg	0.099	0.018
Chrysene	ND		mg/kg	0.099	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.099	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	56		23-120
2-Fluorobiphenyl	56		30-120
4-Terphenyl-d14	69		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 16 Batch: WG1662556-2 WG1662556-3								
Naphthalene	57		57		40-140	0		40
Fluorene	58		62		40-140	7		40
Phenanthrene	57		61		40-140	7		40
Anthracene	57		61		40-140	7		40
Pyrene	61		64		26-127	5		40
Benzo(a)anthracene	59		62		40-140	5		40
Chrysene	57		63		40-140	10		40
Benzo(b)fluoranthene	60		70		40-140	15		40
Benzo(a)pyrene	61		65		40-140	6		40
Benzo(ghi)perylene	58		61		40-140	5		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	27		29		23-120
2-Fluorobiphenyl	29		30		15-120
4-Terphenyl-d14	**30**	Q	**33**	Q	41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-15 Batch: WG1662622-2 WG1662622-3								
Naphthalene	78		87		40-140	11		50
Fluorene	81		90		40-140	11		50
Phenanthrene	77		87		40-140	12		50
Anthracene	80		91		40-140	13		50
Pyrene	74		83		35-142	11		50
Benzo(a)anthracene	80		87		40-140	8		50
Chrysene	81		91		40-140	12		50
Benzo(b)fluoranthene	76		84		40-140	10		50
Benzo(a)pyrene	86		94		40-140	9		50
Benzo(ghi)perylene	71		78		40-140	9		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	88		98		23-120
2-Fluorobiphenyl	81		85		30-120
4-Terphenyl-d14	80		88		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-01
Client ID: PB-841-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 09:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.27		mg/kg	2.07	0.111	1	07/13/22 21:00	07/18/22 14:51	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-02
Client ID: PB-841-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 09:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.32		mg/kg	1.98	0.106	1	07/14/22 09:10	07/18/22 10:11	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-03
Client ID: PB-841-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 10:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.07		mg/kg	2.01	0.108	1	07/14/22 09:10	07/18/22 10:15	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-04
Client ID: PB-841-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 10:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.88		mg/kg	2.00	0.107	1	07/14/22 09:10	07/18/22 10:58	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-05
Client ID: PB-841-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 10:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 98%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.54		mg/kg	2.00	0.107	1	07/14/22 09:10	07/18/22 11:03	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-06
Client ID: PB-841-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.07		mg/kg	2.21	0.118	1	07/14/22 09:10	07/18/22 11:07	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-07
Client ID: PB-841-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	8.11		mg/kg	2.48	0.133	1	07/14/22 09:10	07/18/22 11:12	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-08
Client ID: PB-841-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 11:50
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.00		mg/kg	2.04	0.109	1	07/14/22 09:10	07/18/22 11:16	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-09
Client ID: PB-841-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 12:10
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.00		mg/kg	2.17	0.116	1	07/14/22 09:10	07/18/22 11:21	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-10
Client ID: PB-841-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 12:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.76		mg/kg	2.02	0.108	1	07/14/22 09:10	07/18/22 11:25	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-11
Client ID: PB-841-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 13:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.51		mg/kg	2.06	0.110	1	07/14/22 09:10	07/18/22 11:30	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-12
Client ID: PB-841-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 13:40
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.72		mg/kg	2.24	0.120	1	07/14/22 09:10	07/18/22 11:34	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-13
Client ID: PB-841-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 13:55
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	93.9		mg/kg	2.10	0.113	1	07/14/22 09:10	07/18/22 12:02	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-14
Client ID: PB-841-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 14:30
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	38.9		mg/kg	2.08	0.111	1	07/14/22 09:10	07/18/22 12:07	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2236966
Project Number: 200.00135.006
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-15
Client ID: DUP-42
Sample Location: PHILADELPHIA, PA
Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.60		mg/kg	2.00	0.107	1	07/14/22 09:10	07/18/22 12:11	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-16
Client ID: FB-220712-3
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Water

Date Collected: 07/12/22 14:35
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/13/22 17:44	07/17/22 16:58	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 16 Batch: WG1662468-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/13/22 17:44	07/17/22 14:50	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1662480-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/13/22 21:00	07/18/22 11:53	1,6010D	NB

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 02-15 Batch: WG1662657-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/14/22 09:10	07/18/22 09:57	1,6010D	NB

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 16 Batch: WG1662468-2								
Lead, Total	103		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1662480-2 SRM Lot Number: D113-540								
Lead, Total	76		-		72-128	-		
Total Metals - Mansfield Lab Associated sample(s): 02-15 Batch: WG1662657-2 SRM Lot Number: D113-540								
Lead, Total	90		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236966
Report Date: 07/19/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 16 QC Batch ID: WG1662468-3 QC Sample: L2236962-19 Client ID: MS Sample												
Lead, Total	ND	530	530.0	100		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1662480-3 QC Sample: L2236962-01 Client ID: MS Sample												
Lead, Total	1.62J	43.9	22.6	**51**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 02-15 QC Batch ID: WG1662657-3 QC Sample: L2235484-01 Client ID: MS Sample												
Lead, Total	9.34	54.7	43.2	**62**	Q	-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 16 QC Batch ID: WG1662468-4 QC Sample: L2236962-19 Client ID: DUP Sample						
Lead, Total	ND	ND	ug/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1662480-4 QC Sample: L2236962-01 Client ID: DUP Sample						
Lead, Total	1.62J	1.66J	mg/kg	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-01
Client ID: PB-841-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 09:30
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.7		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-02
Client ID: PB-841-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 09:50
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.9		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-03
Client ID: PB-841-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 10:10
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.6		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-04
Client ID: PB-841-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 10:30
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.2		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-05
Client ID: PB-841-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 10:50
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	98.0		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-06
Client ID: PB-841-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 11:10
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.3		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-07
Client ID: PB-841-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 11:30
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.9		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-08
Client ID: PB-841-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 11:50
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.2		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-09
Client ID: PB-841-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 12:10
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.8		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-10
Client ID: PB-841-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 12:30
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.7		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-11
Client ID: PB-841-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 13:30
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.2		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-12
Client ID: PB-841-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 13:40
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.2		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-13
Client ID: PB-841-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 13:55
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.4		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-14
Client ID: PB-841-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 14:30
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.4		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2236966
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2236966-15
Client ID: DUP-42
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/12/22 00:00
Date Received: 07/12/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.4		%	0.100	NA	1	-	07/13/22 10:26	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2236966

Report Date: 07/19/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-15 QC Batch ID: WG1662270-1 QC Sample: L2236966-01 Client ID: PB-841-01-SS01						
Solids, Total	95.7	95.9	%	0		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236966
Report Date: 07/19/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236966-01A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2236966-01B	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-01C	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-01D	Plastic 2oz unpreserved for TS	A	NA		5.4	Y	Absent		TS(7)
L2236966-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		PB-TI(180)
L2236966-01F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-PAH(14)
L2236966-02A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2236966-02B	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-02C	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-02D	Plastic 2oz unpreserved for TS	A	NA		5.4	Y	Absent		TS(7)
L2236966-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		PB-TI(180)
L2236966-02F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-PAH(14)
L2236966-03A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2236966-03B	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-03C	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-03D	Plastic 2oz unpreserved for TS	A	NA		5.4	Y	Absent		TS(7)
L2236966-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		PB-TI(180)
L2236966-03F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-PAH(14)
L2236966-04A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2236966-04B	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-04C	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-04D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236966-04E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)
L2236966-04F	Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2236966-04G	Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2236966-05A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2236966-05B	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-05C	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-05D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)
L2236966-05E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)
L2236966-05F	Glass 120ml/4oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2236966-06A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2236966-06B	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-06C	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-06D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)
L2236966-06E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)
L2236966-06F	Glass 120ml/4oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2236966-07A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2236966-07B	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-07C	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-07D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)
L2236966-07E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)
L2236966-07F	Glass 120ml/4oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2236966-08A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2236966-08B	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-08C	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-08D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)
L2236966-08E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)
L2236966-08F	Glass 120ml/4oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2236966-09A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236966-09B	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-09C	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-09D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)
L2236966-09E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)
L2236966-09F	Glass 120ml/4oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2236966-10A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2236966-10B	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-10C	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-10D	Plastic 2oz unpreserved for TS	A	NA		5.4	Y	Absent		TS(7)
L2236966-10E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		PB-TI(180)
L2236966-10F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-PAH(14)
L2236966-11A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2236966-11B	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-11C	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-11D	Plastic 2oz unpreserved for TS	A	NA		5.4	Y	Absent		TS(7)
L2236966-11E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		PB-TI(180)
L2236966-11F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-PAH(14)
L2236966-12A	Vial MeOH preserved	A	NA		5.4	Y	Absent		PA-8260HLW(14)
L2236966-12B	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-12C	Vial water preserved	A	NA		5.4	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-12D	Plastic 2oz unpreserved for TS	A	NA		5.4	Y	Absent		TS(7)
L2236966-12E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.4	Y	Absent		PB-TI(180)
L2236966-12F	Glass 120ml/4oz unpreserved	A	NA		5.4	Y	Absent		PA-PAH(14)
L2236966-13A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2236966-13B	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-13C	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-13D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)
L2236966-13E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2236966
Report Date: 07/19/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236966-13F	Glass 120ml/4oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2236966-14A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2236966-14B	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-14C	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-14D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)
L2236966-14E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)
L2236966-14F	Glass 120ml/4oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2236966-15A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2236966-15B	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-15C	Vial water preserved	B	NA		4.3	Y	Absent	13-JUL-22 09:11	PA-8260HLW(14)
L2236966-15D	Metals Only-Glass 60mL/2oz unpreserved	B	N/A	N/A	4.3	Y	Absent		PB-TI(180)
L2236966-15E	Glass 120ml/4oz unpreserved	B	NA		4.3	Y	Absent		TS(7),PA-PAH(14)
L2236966-16A	Vial HCl preserved	B	NA		4.3	Y	Absent		PA-8260(14)
L2236966-16B	Vial HCl preserved	B	NA		4.3	Y	Absent		PA-8260(14)
L2236966-16C	Vial HCl preserved	B	NA		4.3	Y	Absent		8011(14)
L2236966-16D	Plastic 250ml HNO3 preserved	B	<2	<2	4.3	Y	Absent		PB-6020T-PPB(180)
L2236966-16E	Amber 250ml unpreserved	B	7	7	4.3	Y	Absent		PA-PAHSIM-LVI(7)
L2236966-16F	Amber 250ml unpreserved	B	7	7	4.3	Y	Absent		PA-PAHSIM-LVI(7)
L2236966-17A	Vial HCl preserved	B	NA		4.3	Y	Absent		PA-8260(14)
L2236966-17B	Vial HCl preserved	B	NA		4.3	N	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236966
Project Number:	200.00135.006	**Report Date:**	07/19/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236966
Project Number:	200.00135.006	**Report Date:**	07/19/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236966
Project Number:	200.00135.006	**Report Date:**	07/19/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2236966
Project Number:	200.00135.006	**Report Date:**	07/19/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

2

CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 7/13/22

ALPHA Job #: L2236616

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193

Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SHORTLIST 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
36966 -01	PB-841-01-5501	7/12	930	S	TS	
-02	PB-841-02-5501		950			
-03	PB-841-03-5501		1010			
-04	PB-841-04-5501		1030			
-05	PB-841-05-5501		1050			
-06	PB-841-06-5501		1110			
-07	PB-841-07-5501		1130			
-08	PB-841-08-5501		1150			
-09	PB-841-09-5501		1210			
-10	PB-841-10-5501		1230			

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/12 1455		7/12 1455
	7/12/22 1800		7-12 1800
	7-12 2100		7/12/22 2100
	7/12/22		7/13/22 0005

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(LALR) (rev. 3-JAN-12)

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CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 7/13/22

ALPHA Job #: L2236966

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193

Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client Info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SHORTLIST 1-5

VOC PORTION OF 52

SAMPLE HANDLING

Filtration

☐ Done ☒ Not Needed ☐ Lab to do

Preservation

☐ Lab to do

(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
-11	PB-841-11-5501	7/12	1330	S	JS	
-12	PB-841-12-5501		1310	S		
-13	PB-841-13-5501		1355	S		
-14	PB-841-14-5501		1430	S		
-15	DUP-42		-	S		
-16	FB-220712-3		1435	W		
-17	TB-220712					

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/12/1455		7/12/22 1455
AA	7/12/22 1800		7/12 1800
AMP	7/13/22 2100		7/12/22 2100
	7/15/22 0730		7/13/22 0800

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(MA) (rev. 3-JAN-12)

PADEP Short List Analytical Suites per Table III-5:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

ANALYTICAL REPORT

Lab Number:	L2237246
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/20/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237246
Report Date: 07/20/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2237246-01	PB-826-01-SS01	SOIL	PHILADELPHIA, PA	07/13/22 10:00	07/13/22
L2237246-02	PB-826-02-SS01	SOIL	PHILADELPHIA, PA	07/13/22 10:30	07/13/22
L2237246-03	PB-826-03-SS01	SOIL	PHILADELPHIA, PA	07/13/22 11:00	07/13/22
L2237246-04	PB-826-04-SS01	SOIL	PHILADELPHIA, PA	07/13/22 11:30	07/13/22
L2237246-05	PB-826-05-SS01	SOIL	PHILADELPHIA, PA	07/13/22 12:00	07/13/22
L2237246-06	PB-826-06-SS01	SOIL	PHILADELPHIA, PA	07/13/22 12:30	07/13/22
L2237246-07	PB-826-07-SS01	SOIL	PHILADELPHIA, PA	07/13/22 13:00	07/13/22
L2237246-08	PB-826-08-SS01	SOIL	PHILADELPHIA, PA	07/13/22 13:30	07/13/22
L2237246-09	PB-826-09-SS01	SOIL	PHILADELPHIA, PA	07/13/22 14:00	07/13/22
L2237246-10	PB-826-10-SS01	SOIL	PHILADELPHIA, PA	07/13/22 14:15	07/13/22
L2237246-11	FB-071322-2	WATER	PHILADELPHIA, PA	07/13/22 14:20	07/13/22
L2237246-12	TB-071322	WATER	PHILADELPHIA, PA	07/13/22 00:00	07/13/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237246
Project Number:	200.00135.006	**Report Date:**	07/20/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237246
Project Number:	200.00135.006	**Report Date:**	07/20/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Total Metals

L2237246-01 through -10: The sample has an elevated detection limit for lead due to the dilution required by matrix interferences encountered during analysis.

The WG1663069-3 MS recovery, performed on L2237246-02, is outside the acceptance criteria for lead (66%). A post digestion spike was performed and yielded an unacceptable recovery for lead (73%). The serial dilution recovery was not applicable; therefore, this element fails the matrix test and the result reported in the native sample should be considered estimated.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Title: Technical Director/Representative Date: 07/20/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-01
Client ID: PB-826-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 10:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/16/22 17:49
Analyst: NLK
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00032	J	mg/kg	0.0028	0.00028	1
Benzene	ND		mg/kg	0.00069	0.00023	1
1,2-Dichloroethane	ND		mg/kg	0.0014	0.00035	1
Toluene	ND		mg/kg	0.0014	0.00075	1
1,2-Dibromoethane	ND		mg/kg	0.00069	0.00040	1
Ethylbenzene	ND		mg/kg	0.0014	0.00019	1
p/m-Xylene	ND		mg/kg	0.0028	0.00077	1
o-Xylene	ND		mg/kg	0.0014	0.00040	1
Xylenes, Total	ND		mg/kg	0.0014	0.00040	1
Isopropylbenzene	ND		mg/kg	0.0014	0.00015	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0028	0.00026	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0028	0.00046	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-02
Client ID: PB-826-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 10:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/16/22 18:09
Analyst: NLK
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0010	J	mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00057	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00031	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00059	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-03
Client ID: PB-826-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 11:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/16/22 18:29
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.020		mg/kg	0.0025	0.00025	1
Benzene	ND		mg/kg	0.00063	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00032	1
Toluene	ND		mg/kg	0.0013	0.00069	1
1,2-Dibromoethane	ND		mg/kg	0.00063	0.00037	1
Ethylbenzene	ND		mg/kg	0.0013	0.00018	1
p/m-Xylene	ND		mg/kg	0.0025	0.00071	1
o-Xylene	ND		mg/kg	0.0013	0.00037	1
Xylenes, Total	ND		mg/kg	0.0013	0.00037	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0025	0.00024	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0025	0.00042	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-04
Client ID: PB-826-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 11:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/16/22 18:49
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0012	J	mg/kg	0.0039	0.00039	1
Benzene	ND		mg/kg	0.00097	0.00032	1
1,2-Dichloroethane	ND		mg/kg	0.0019	0.00050	1
Toluene	ND		mg/kg	0.0019	0.0010	1
1,2-Dibromoethane	ND		mg/kg	0.00097	0.00057	1
Ethylbenzene	ND		mg/kg	0.0019	0.00027	1
p/m-Xylene	ND		mg/kg	0.0039	0.0011	1
o-Xylene	ND		mg/kg	0.0019	0.00056	1
Xylenes, Total	ND		mg/kg	0.0019	0.00056	1
Isopropylbenzene	ND		mg/kg	0.0019	0.00021	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0039	0.00037	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0039	0.00065	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-05
Client ID: PB-826-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/16/22 19:08
Analyst: NLK
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-06
Client ID: PB-826-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/16/22 19:28
Analyst: NLK
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.013		mg/kg	0.0030	0.00030	1
Benzene	ND		mg/kg	0.00075	0.00025	1
1,2-Dichloroethane	ND		mg/kg	0.0015	0.00039	1
Toluene	ND		mg/kg	0.0015	0.00082	1
1,2-Dibromoethane	ND		mg/kg	0.00075	0.00044	1
Ethylbenzene	ND		mg/kg	0.0015	0.00021	1
p/m-Xylene	ND		mg/kg	0.0030	0.00084	1
o-Xylene	ND		mg/kg	0.0015	0.00044	1
Xylenes, Total	ND		mg/kg	0.0015	0.00044	1
Isopropylbenzene	ND		mg/kg	0.0015	0.00016	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0030	0.00029	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0030	0.00050	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-07
Client ID: PB-826-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 13:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/16/22 19:48
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.016		mg/kg	0.0024	0.00025	1
Benzene	ND		mg/kg	0.00061	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00066	1
1,2-Dibromoethane	ND		mg/kg	0.00061	0.00036	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00068	1
o-Xylene	ND		mg/kg	0.0012	0.00036	1
Xylenes, Total	ND		mg/kg	0.0012	0.00036	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00024	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00041	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-08
Client ID: PB-826-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 13:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/16/22 20:07
Analyst: NLK
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	0.00033	J	mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00055	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	102		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-09
Client ID: PB-826-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 14:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/16/22 20:27
Analyst: NLK
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0027	0.00027	1
Benzene	ND		mg/kg	0.00068	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0014	0.00035	1
Toluene	ND		mg/kg	0.0014	0.00073	1
1,2-Dibromoethane	ND		mg/kg	0.00068	0.00040	1
Ethylbenzene	ND		mg/kg	0.0014	0.00019	1
p/m-Xylene	ND		mg/kg	0.0027	0.00076	1
o-Xylene	ND		mg/kg	0.0014	0.00039	1
Xylenes, Total	ND		mg/kg	0.0014	0.00039	1
Isopropylbenzene	ND		mg/kg	0.0014	0.00015	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0027	0.00026	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0027	0.00045	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-10
Client ID: PB-826-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 14:15
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/16/22 20:47
Analyst: NLK
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0029	0.00029	1
Benzene	ND		mg/kg	0.00073	0.00024	1
1,2-Dichloroethane	ND		mg/kg	0.0015	0.00038	1
Toluene	ND		mg/kg	0.0015	0.00080	1
1,2-Dibromoethane	ND		mg/kg	0.00073	0.00043	1
Ethylbenzene	ND		mg/kg	0.0015	0.00021	1
p/m-Xylene	ND		mg/kg	0.0029	0.00082	1
o-Xylene	ND		mg/kg	0.0015	0.00043	1
Xylenes, Total	ND		mg/kg	0.0015	0.00043	1
Isopropylbenzene	ND		mg/kg	0.0015	0.00016	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0029	0.00028	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0029	0.00049	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-11
Client ID: FB-071322-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 14:20
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 16:36
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-11
Client ID: FB-071322-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 14:20
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/16/22 09:38
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-12
Client ID: TB-071322
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 00:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 16:43
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-12
Client ID: TB-071322
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 00:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/16/22 09:15
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/15/22 16:10
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 11-12 Batch: WG1663450-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/16/22 08:52
Analyst: TMS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 11-12 Batch: WG1663980-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/16/22 14:32
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-10 Batch: WG1664163-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	98		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237246

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 11-12 Batch: WG1663450-2								
1,2-Dibromoethane	97		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237246

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 11-12 Batch: WG1663980-3 WG1663980-4								
Methyl tert butyl ether	97		96		63-130	1		20
Benzene	94		93		70-130	1		20
1,2-Dichloroethane	97		95		70-130	2		20
Toluene	96		97		70-130	1		20
Ethylbenzene	97		98		70-130	1		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	95		95		70-130	0		20
Isopropylbenzene	110		110		70-130	0		20
1,3,5-Trimethylbenzene	100		100		64-130	0		20
1,2,4-Trimethylbenzene	100		100		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		95		70-130
Toluene-d8	106		107		70-130
4-Bromofluorobenzene	115		115		70-130
Dibromofluoromethane	93		92		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237246

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-10 Batch: WG1664163-3 WG1664163-4								
Methyl tert butyl ether	91		88		66-130	3		30
Benzene	82		78		70-130	5		30
1,2-Dichloroethane	87		84		70-130	4		30
Toluene	75		72		70-130	4		30
1,2-Dibromoethane	85		82		70-130	4		30
Ethylbenzene	81		77		70-130	5		30
p/m-Xylene	82		78		70-130	5		30
o-Xylene	84		81		70-130	4		30
Isopropylbenzene	82		77		70-130	6		30
1,3,5-Trimethylbenzene	83		79		70-130	5		30
1,2,4-Trimethylbenzene	82		78		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		102		70-130
Toluene-d8	99		100		70-130
4-Bromofluorobenzene	99		99		70-130
Dibromofluoromethane	101		101		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-01
Client ID: PB-826-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 10:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 11:54
Analyst: EK
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**124**	Q	23-120
2-Fluorobiphenyl	81		30-120
4-Terphenyl-d14	94		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-02
Client ID: PB-826-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 10:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 12:17
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	120		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	92		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-03
Client ID: PB-826-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 11:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 12:40
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	119		23-120
2-Fluorobiphenyl	82		30-120
4-Terphenyl-d14	93		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-04
Client ID: PB-826-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 11:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 13:04
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	115		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	85		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-05
Client ID: PB-826-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 13:27
Analyst: EK
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**123**	Q	23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	84		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-06
Client ID: PB-826-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 13:50
Analyst: EK
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.034	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	116		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	85		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-07
Client ID: PB-826-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 13:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 14:14
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**132**	Q	23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-08
Client ID: PB-826-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 13:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 14:37
Analyst: EK
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**123**	Q	23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	74		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-09
Client ID: PB-826-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 14:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 15:01
Analyst: EK
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	103		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	80		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-10
Client ID: PB-826-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 14:15
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 15:24
Analyst: EK
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	111		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	90		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-11
Client ID: FB-071322-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 14:20
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/15/22 19:34
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/15/22 01:47

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	0.03	J	ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	51		23-120
2-Fluorobiphenyl	55		15-120
4-Terphenyl-d14	59		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/15/22 08:47
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:25

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-10 Batch: WG1663095-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.099	0.020
Anthracene	ND		mg/kg	0.099	0.032
Pyrene	ND		mg/kg	0.099	0.016
Benzo(a)anthracene	ND		mg/kg	0.099	0.019
Chrysene	ND		mg/kg	0.099	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.099	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	107		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	101		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/15/22 18:13
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/15/22 01:47

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 11 Batch: WG1663135-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	0.03	J	ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	39		23-120
2-Fluorobiphenyl	43		15-120
4-Terphenyl-d14	43		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237246

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 Batch: WG1663095-2 WG1663095-3								
Naphthalene	76		78		40-140	3		50
Fluorene	84		83		40-140	1		50
Phenanthrene	78		77		40-140	1		50
Anthracene	81		79		40-140	3		50
Pyrene	82		80		35-142	2		50
Benzo(a)anthracene	85		84		40-140	1		50
Chrysene	86		84		40-140	2		50
Benzo(b)fluoranthene	87		91		40-140	4		50
Benzo(a)pyrene	90		95		40-140	5		50
Benzo(ghi)perylene	85		78		40-140	9		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	113		116		23-120
2-Fluorobiphenyl	78		78		30-120
4-Terphenyl-d14	91		89		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237246
Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 11 Batch: WG1663135-2 WG1663135-3								
Naphthalene	90		84		40-140	7		40
Fluorene	90		88		40-140	2		40
Phenanthrene	91		85		40-140	7		40
Anthracene	90		86		40-140	5		40
Pyrene	96		91		26-127	5		40
Benzo(a)anthracene	94		90		40-140	4		40
Chrysene	90		86		40-140	5		40
Benzo(b)fluoranthene	97		90		40-140	7		40
Benzo(a)pyrene	95		88		40-140	8		40
Benzo(ghi)perylene	94		90		40-140	4		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	43		39		23-120
2-Fluorobiphenyl	43		42		15-120
4-Terphenyl-d14	48		45		41-149

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-01
Client ID: PB-826-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 10:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.14	J	mg/kg	4.68	0.251	2	07/14/22 20:35	07/19/22 08:21	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-02
Client ID: PB-826-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 10:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.36	J	mg/kg	4.04	0.217	2	07/14/22 20:35	07/19/22 09:21	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-03
Client ID: PB-826-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 11:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.14	J	mg/kg	4.08	0.219	2	07/14/22 20:35	07/19/22 08:26	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-04
Client ID: PB-826-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 11:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.88	J	mg/kg	4.14	0.222	2	07/14/22 20:35	07/19/22 08:31	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-05
Client ID: PB-826-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 12:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.46	J	mg/kg	4.14	0.222	2	07/14/22 20:35	07/19/22 09:12	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-06
Client ID: PB-826-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 12:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	8.10	J	mg/kg	10.4	0.555	5	07/14/22 20:35	07/19/22 09:54	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237246
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-07
Client ID: PB-826-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 13:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.19	J	mg/kg	10.3	0.551	5	07/14/22 20:35	07/19/22 10:08	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-08
Client ID: PB-826-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 13:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.67	J	mg/kg	4.69	0.251	2	07/14/22 20:35	07/19/22 09:31	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-09
Client ID: PB-826-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 14:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.55		mg/kg	4.83	0.259	2	07/14/22 20:35	07/19/22 09:35	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-10
Client ID: PB-826-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 14:15
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.72	J	mg/kg	4.13	0.221	2	07/14/22 20:35	07/19/22 09:40	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-11
Client ID: FB-071322-2
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Water

Date Collected: 07/13/22 14:20
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/15/22 14:25	07/18/22 20:03	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-10 Batch: WG1663069-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/14/22 20:35	07/19/22 07:16	1,6010D	EW

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 11 Batch: WG1663390-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/15/22 14:25	07/18/22 18:50	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237246

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-10 Batch: WG1663069-2 SRM Lot Number: D113-540								
Lead, Total	82		-		72-128	-		
Total Metals - Mansfield Lab Associated sample(s): 11 Batch: WG1663390-2								
Lead, Total	102		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237246
Report Date: 07/20/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG1663069-3 QC Sample: L2237246-02 Client ID: PB-826-02-SS01												
Lead, Total	3.36J	43.7	28.9	**66**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 11 QC Batch ID: WG1663390-3 WG1663390-4 QC Sample: L2237672-03 Client ID: MS Sample												
Lead, Total	0.9553J	530	569.8	108		561.0	106		75-125	2		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237246

Report Date: 07/20/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG1663069-4 QC Sample: L2237246-02 Client ID: PB-826-02-SS01						
Lead, Total	3.36J	2.92J	mg/kg	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-01
Client ID: PB-826-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 10:00
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.0		%	0.100	NA	1	-	07/15/22 09:47	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-02
Client ID: PB-826-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 10:30
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.7		%	0.100	NA	1	-	07/15/22 09:47	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-03
Client ID: PB-826-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 11:00
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.0		%	0.100	NA	1	-	07/15/22 09:47	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-04
Client ID: PB-826-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 11:30
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.9		%	0.100	NA	1	-	07/15/22 09:47	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-05
Client ID: PB-826-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/13/22 12:00
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.2		%	0.100	NA	1	-	07/15/22 09:47	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-06
Client ID: PB-826-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 12:30
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.6		%	0.100	NA	1	-	07/15/22 09:47	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-07
Client ID: PB-826-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 13:00
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.2		%	0.100	NA	1	-	07/15/22 09:47	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-08
Client ID: PB-826-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 13:30
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.2		%	0.100	NA	1	-	07/15/22 09:47	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-09
Client ID: PB-826-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/13/22 14:00
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.5		%	0.100	NA	1	-	07/15/22 09:47	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237246
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237246-10
Client ID: PB-826-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 14:15
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.5		%	0.100	NA	1	-	07/15/22 09:47	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237246

Report Date: 07/20/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-10 QC Batch ID: WG1663198-1 QC Sample: L2237246-01 Client ID: PB-826-01-SS01						
Solids, Total	82.0	80.2	%	2		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237246
Report Date: 07/20/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237246-01A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2237246-01B	Vial water preserved	B	NA		4.3	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)
L2237246-01C	Vial water preserved	B	NA		4.3	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)
L2237246-01D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)
L2237246-01E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)
L2237246-01F	Glass 120ml/4oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2237246-02A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237246-02B	Vial water preserved	A	NA		4.0	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)
L2237246-02C	Vial water preserved	A	NA		4.0	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)
L2237246-02D	Plastic 2oz unpreserved for TS	A	NA		4.0	Y	Absent		TS(7)
L2237246-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237246-02F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237246-03A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237246-03B	Vial water preserved	A	NA		4.0	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)
L2237246-03C	Vial water preserved	A	NA		4.0	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)
L2237246-03D	Plastic 2oz unpreserved for TS	A	NA		4.0	Y	Absent		TS(7)
L2237246-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237246-03F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237246-04A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237246-04B	Vial water preserved	A	NA		4.0	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)
L2237246-04C	Vial water preserved	A	NA		4.0	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)
L2237246-04D	Plastic 2oz unpreserved for TS	A	NA		4.0	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237246
Report Date: 07/20/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237246-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237246-04F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237246-05A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2237246-05B	Vial water preserved	B	NA		4.3	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)
L2237246-05C	Vial water preserved	B	NA		4.3	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)
L2237246-05D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)
L2237246-05E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)
L2237246-05F	Glass 120ml/4oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2237246-06A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2237246-06B	Vial water preserved	B	NA		4.3	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)
L2237246-06C	Vial water preserved	B	NA		4.3	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)
L2237246-06D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)
L2237246-06E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)
L2237246-06F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237246-07A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237246-07B	Vial water preserved	A	NA		4.0	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)
L2237246-07C	Vial water preserved	A	NA		4.0	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)
L2237246-07D	Plastic 2oz unpreserved for TS	A	NA		4.0	Y	Absent		TS(7)
L2237246-07E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237246-07F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237246-08A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237246-08B	Vial water preserved	A	NA		4.0	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)
L2237246-08C	Vial water preserved	A	NA		4.0	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)
L2237246-08D	Plastic 2oz unpreserved for TS	A	NA		4.0	Y	Absent		TS(7)
L2237246-08E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237246-08F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237246-09A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237246-09B	Vial water preserved	A	NA		4.0	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237246
Report Date: 07/20/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237246-09C	Vial water preserved	A	NA		4.0	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)
L2237246-09D	Plastic 2oz unpreserved for TS	A	NA		4.0	Y	Absent		TS(7)
L2237246-09E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237246-09F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237246-10A	Vial MeOH preserved	B	NA		4.3	Y	Absent		PA-8260HLW(14)
L2237246-10B	Vial water preserved	B	NA		4.3	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)
L2237246-10C	Vial water preserved	B	NA		4.3	Y	Absent	14-JUL-22 15:03	PA-8260HLW(14)
L2237246-10D	Plastic 2oz unpreserved for TS	B	NA		4.3	Y	Absent		TS(7)
L2237246-10E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.3	Y	Absent		PB-TI(180)
L2237246-10F	Glass 120ml/4oz unpreserved	B	NA		4.3	Y	Absent		PA-PAH(14)
L2237246-11A	Vial HCl preserved	B	NA		4.3	Y	Absent		PA-8260(14)
L2237246-11B	Vial HCl preserved	B	NA		4.3	Y	Absent		PA-8260(14)
L2237246-11C	Vial HCl preserved	B	NA		4.3	Y	Absent		PA-8260(14)
L2237246-11D	Vial HCl preserved	B	NA		4.3	Y	Absent		8011(14)
L2237246-11E	Vial HCl preserved	B	NA		4.3	Y	Absent		8011(14)
L2237246-11F	Plastic 250ml HNO3 preserved	B	<2	<2	4.3	Y	Absent		PB-6020T-PPB(180)
L2237246-11G	Amber 250ml unpreserved	B	7	7	4.3	Y	Absent		PA-PAHSIM-LVI(7)
L2237246-11H	Amber 250ml unpreserved	B	7	7	4.3	Y	Absent		PA-PAHSIM-LVI(7)
L2237246-12A	Vial HCl preserved	B	NA		4.3	Y	Absent		PA-8260(14)
L2237246-12B	Vial HCl preserved	B	NA		4.3	Y	Absent		PA-8260(14)
L2237246-12D	Vial HCl preserved	B	NA		4.3	Y	Absent		8011(14)
L2237246-12E	Vial HCl preserved	B	NA		4.3	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237246
Project Number:	200.00135.006	**Report Date:**	07/20/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237246
Project Number:	200.00135.006	**Report Date:**	07/20/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237246
Project Number:	200.00135.006	**Report Date:**	07/20/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237246
Project Number:	200.00135.006	**Report Date:**	07/20/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 7/14/22

ALPHA Job #: L2237246

ALPHA ANALYTICAL
Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Shortlist 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
37246-01	PB-826-01-5501	7/13	1000	S	TS	
-02	PB-826-02-5501		1030			
-03	PB-826-03-5501		1100			
-04	PB-826-04-5501		1130			
-05	PB-826-05-5501		1200			
-06	PB-826-06-5501		1230			
-07	PB-826-07-5501		1300			
-08	PB-826-08-5501		1330			
-09	PB-826-09-5501		1400			
-10	PB-826-10-5501		1415			

Container Type			G									
Preservative												

Relinquished By:	Date/Time	Received By:	Date/Time
	7/13 14:30	STA AAL	7/13/22 14:30
	7/13/22 20:00		7/13/22
	7/13/22 21:00		7/13/22 21:00
	7/13/22		7/13/22 2135

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 7/14/12

ALPHA Job #: L2237246

ALPHA ANALYTICAL
Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Report Information Data Deliverables

- ☐ FAX
- ☒ EMAIL
- ☒ ADEx
- ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	SHORTLIST 1-5	VOC Portion of SL	EDB (8011)	Sample Specific Comments
37246-11	EB-071322-2	7/13	1420	W	TS	☑	☐	☐	
-12	TB-071322			W	TS	☐	☑	☑	

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
	7/13 14:30	SET AAL	7/13/22 14:30
	7/13/22 1800		7/13 1807
	7/13 2100		7/13/22 2100
	7/13/22		7/14/22 0235

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(HC) (rev. 2, 10-Feb-12)

PADEP Short List Analytical Suites per Table III-5:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

ANALYTICAL REPORT

Lab Number:	L2237250
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/20/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237250
Report Date: 07/20/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2237250-01	PB-882-03-SS01	SOIL	PHILADELPHIA, PA	07/13/22 11:30	07/13/22
L2237250-02	PB-882-04-SS01	SOIL	PHILADELPHIA, PA	07/13/22 11:40	07/13/22
L2237250-03	PB-882-05-SS01	SOIL	PHILADELPHIA, PA	07/13/22 11:50	07/13/22
L2237250-04	PB-882-06-SS01	SOIL	PHILADELPHIA, PA	07/13/22 12:00	07/13/22
L2237250-05	PB-882-07-SS01	SOIL	PHILADELPHIA, PA	07/13/22 12:10	07/13/22
L2237250-06	PB-882-08-SS01	SOIL	PHILADELPHIA, PA	07/13/22 12:20	07/13/22
L2237250-07	PB-882-09-SS01	SOIL	PHILADELPHIA, PA	07/13/22 12:30	07/13/22
L2237250-08	PB-882-11-SS01	SOIL	PHILADELPHIA, PA	07/13/22 12:40	07/13/22
L2237250-09	PB-882-12-SS01	SOIL	PHILADELPHIA, PA	07/13/22 12:50	07/13/22
L2237250-10	PB-882-13-SS01	SOIL	PHILADELPHIA, PA	07/13/22 13:00	07/13/22
L2237250-11	FB-071322-1	WATER	PHILADELPHIA, PA	07/13/22 14:00	07/13/22
L2237250-12	DUP-43	SOIL	PHILADELPHIA, PA	07/13/22 00:00	07/13/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237250
Project Number:	200.00135.006	**Report Date:**	07/20/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237250
Project Number:	200.00135.006	**Report Date:**	07/20/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2237250-06: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (191%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2237250-07: The surrogate recoveries are outside the acceptance criteria for toluene-d8 (167%) and 4-bromofluorobenzene (422%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Total Metals

L2237250-01 through -10: The sample has an elevated detection limit for lead, due to the dilution required by matrix interferences encountered during analysis.

L2237250-12: The sample has an elevated detection limit for lead due to the dilution required by matrix interferences encountered during analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 07/20/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-01
Client ID: PB-882-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 11:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 10:01
Analyst: NLK
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	ND		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00090	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00090	0.00026	1
Xylenes, Total	ND		mg/kg	0.00090	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-02
Client ID: PB-882-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 11:40
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 10:28
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	0.00058		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00095	0.00024	1
Toluene	ND		mg/kg	0.00095	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	0.00014	J	mg/kg	0.00095	0.00013	1
p/m-Xylene	0.00060	J	mg/kg	0.0019	0.00053	1
o-Xylene	ND		mg/kg	0.00095	0.00028	1
Xylenes, Total	0.00060	J	mg/kg	0.00095	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00095	0.00010	1
1,3,5-Trimethylbenzene	0.00038	J	mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	0.00096	J	mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-03
Client ID: PB-882-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 11:50
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 10:55
Analyst: NLK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	107		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-04
Client ID: PB-882-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 11:22
Analyst: NLK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00091	0.00023	1
Toluene	ND		mg/kg	0.00091	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00091	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00091	0.00026	1
Xylenes, Total	ND		mg/kg	0.00091	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00091	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-05
Client ID: PB-882-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:10
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 11:49
Analyst: NLK
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00091	0.00023	1
Toluene	ND		mg/kg	0.00091	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00091	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00091	0.00026	1
Xylenes, Total	ND		mg/kg	0.00091	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00091	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-06
Client ID: PB-882-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:20
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/20/22 09:17
Analyst: NLK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00089	0.00023	1
Toluene	ND		mg/kg	0.00089	0.00048	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	0.017		mg/kg	0.00089	0.00012	1
p/m-Xylene	0.0045		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00089	0.00026	1
Xylenes, Total	0.0045		mg/kg	0.00089	0.00026	1
Isopropylbenzene	0.039		mg/kg	0.00089	0.00009	1
1,3,5-Trimethylbenzene	0.016		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	0.041		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	74		70-130
Toluene-d8	127		70-130
4-Bromofluorobenzene	**191**	Q	70-130
Dibromofluoromethane	76		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-07
Client ID: PB-882-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/20/22 10:09
Analyst: NLK
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	0.00079	J	mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00061	1
o-Xylene	0.0014		mg/kg	0.0011	0.00032	1
Xylenes, Total	0.0014		mg/kg	0.0011	0.00032	1
Isopropylbenzene	0.042		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	75		70-130
Toluene-d8	**167**	Q	70-130
4-Bromofluorobenzene	**422**	Q	70-130
Dibromofluoromethane	73		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-08
Client ID: PB-882-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:40
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 12:16
Analyst: NLK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0016	J	mg/kg	0.0017	0.00017	1
Benzene	0.00032	J	mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00087	0.00022	1
Toluene	ND		mg/kg	0.00087	0.00047	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	ND		mg/kg	0.00087	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00049	1
o-Xylene	ND		mg/kg	0.00087	0.00025	1
Xylenes, Total	ND		mg/kg	0.00087	0.00025	1
Isopropylbenzene	0.00010	J	mg/kg	0.00087	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-09
Client ID: PB-882-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:50
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 12:42
Analyst: NLK
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	0.00037	J	mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00085	0.00022	1
Toluene	ND		mg/kg	0.00085	0.00046	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	ND		mg/kg	0.00085	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00048	1
o-Xylene	ND		mg/kg	0.00085	0.00025	1
Xylenes, Total	ND		mg/kg	0.00085	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00085	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-10
Client ID: PB-882-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 13:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 13:09
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00092	0.00024	1
Toluene	ND		mg/kg	0.00092	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00092	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00052	1
o-Xylene	ND		mg/kg	0.00092	0.00027	1
Xylenes, Total	ND		mg/kg	0.00092	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00092	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-11
Client ID: FB-071322-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 14:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 16:49
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-11
Client ID: FB-071322-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 14:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/16/22 10:01
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-12
Client ID: DUP-43
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 00:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 13:35
Analyst: NLK
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00020	1
Benzene	0.00021	J	mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00097	0.00025	1
Toluene	ND		mg/kg	0.00097	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00028	1
Ethylbenzene	ND		mg/kg	0.00097	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00097	0.00028	1
Xylenes, Total	ND		mg/kg	0.00097	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00097	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	109		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/15/22 16:10
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 11 Batch: WG1663450-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/16/22 08:52
Analyst: TMS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 11 Batch: WG1663980-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/18/22 09:34
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-05,08-10,12 Batch: WG1664674-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/20/22 08:50
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 06-07 Batch: WG1665306-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	90		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237250

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 11		Batch: WG1663450-2						
1,2-Dibromoethane	97		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237250

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 11 Batch: WG1663980-3 WG1663980-4								
Methyl tert butyl ether	97		96		63-130	1		20
Benzene	94		93		70-130	1		20
1,2-Dichloroethane	97		95		70-130	2		20
Toluene	96		97		70-130	1		20
Ethylbenzene	97		98		70-130	1		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	95		95		70-130	0		20
Isopropylbenzene	110		110		70-130	0		20
1,3,5-Trimethylbenzene	100		100		64-130	0		20
1,2,4-Trimethylbenzene	100		100		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		95		70-130
Toluene-d8	106		107		70-130
4-Bromofluorobenzene	115		115		70-130
Dibromofluoromethane	93		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237250
Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-05,08-10,12 Batch: WG1664674-3 WG1664674-4								
Methyl tert butyl ether	87		86		66-130	1		30
Benzene	87		87		70-130	0		30
1,2-Dichloroethane	85		86		70-130	1		30
Toluene	88		89		70-130	1		30
1,2-Dibromoethane	93		93		70-130	0		30
Ethylbenzene	87		87		70-130	0		30
p/m-Xylene	91		92		70-130	1		30
o-Xylene	89		90		70-130	1		30
Isopropylbenzene	85		85		70-130	0		30
1,3,5-Trimethylbenzene	85		85		70-130	0		30
1,2,4-Trimethylbenzene	84		83		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		96		70-130
Toluene-d8	99		101		70-130
4-Bromofluorobenzene	84		84		70-130
Dibromofluoromethane	106		105		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237250

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 06-07 Batch: WG1665306-3 WG1665306-4								
Methyl tert butyl ether	100		98		66-130	2		30
Benzene	88		84		70-130	5		30
1,2-Dichloroethane	**69**	Q	**66**	Q	70-130	4		30
Toluene	88		85		70-130	3		30
1,2-Dibromoethane	85		83		70-130	2		30
Ethylbenzene	85		82		70-130	4		30
p/m-Xylene	88		86		70-130	2		30
o-Xylene	87		84		70-130	4		30
Isopropylbenzene	92		89		70-130	3		30
1,3,5-Trimethylbenzene	88		86		70-130	2		30
1,2,4-Trimethylbenzene	87		85		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	76		75		70-130
Toluene-d8	102		101		70-130
4-Bromofluorobenzene	104		103		70-130
Dibromofluoromethane	78		77		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-01
Client ID: PB-882-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 11:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 15:47
Analyst: EK
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	112		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	85		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-02
Client ID: PB-882-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 11:40
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 16:11
Analyst: EK
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	106		23-120
2-Fluorobiphenyl	76		30-120
4-Terphenyl-d14	97		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-03
Client ID: PB-882-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 11:50
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 16:34
Analyst: EK
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	104		23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	79		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-04
Client ID: PB-882-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 16:57
Analyst: EK
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	115		23-120
2-Fluorobiphenyl	79		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-05
Client ID: PB-882-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:10
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 17:21
Analyst: EK
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**133**	Q	23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	101		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-06
Client ID: PB-882-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:20
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 17:44
Analyst: EK
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	1.6		mg/kg	0.19	0.024	1
Fluorene	0.40		mg/kg	0.19	0.019	1
Phenanthrene	0.78		mg/kg	0.12	0.024	1
Anthracene	0.041	J	mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**139**	Q	23-120
2-Fluorobiphenyl	81		30-120
4-Terphenyl-d14	91		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-07
Client ID: PB-882-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 16:57
Analyst: SLR
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.060	J	mg/kg	0.20	0.025	1
Fluorene	0.99		mg/kg	0.20	0.020	1
Phenanthrene	1.7		mg/kg	0.12	0.025	1
Anthracene	0.076	J	mg/kg	0.12	0.040	1
Pyrene	0.062	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.024	J	mg/kg	0.12	0.023	1
Chrysene	0.094	J	mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.035	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	93		23-120
2-Fluorobiphenyl	91		30-120
4-Terphenyl-d14	98		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-08
Client ID: PB-882-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:40
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 18:07
Analyst: EK
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**142**	Q	23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	103		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-09
Client ID: PB-882-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 12:50
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 18:30
Analyst: EK
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**139**	Q	23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	89		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-10
Client ID: PB-882-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 13:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 18:54
Analyst: EK
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**125**	Q	23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	78		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-11
Client ID: FB-071322-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 14:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/15/22 19:51
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/15/22 01:47

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.05	J	ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	37		23-120
2-Fluorobiphenyl	42		15-120
4-Terphenyl-d14	52		41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-12
Client ID: DUP-43
Sample Location: PHILADELPHIA, PA

Date Collected: 07/13/22 00:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/15/22 16:33
Analyst: SLR
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	57		23-120
2-Fluorobiphenyl	68		30-120
4-Terphenyl-d14	69		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/14/22 17:49
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 07/14/22 02:24

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 12 Batch: WG1662622-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.099	0.020
Anthracene	ND		mg/kg	0.099	0.032
Pyrene	ND		mg/kg	0.099	0.016
Benzo(a)anthracene	ND		mg/kg	0.099	0.018
Chrysene	ND		mg/kg	0.099	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.099	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	56		23-120
2-Fluorobiphenyl	56		30-120
4-Terphenyl-d14	69		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/15/22 08:47
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 07/14/22 20:25

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-10 Batch: WG1663095-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.099	0.020
Anthracene	ND		mg/kg	0.099	0.032
Pyrene	ND		mg/kg	0.099	0.016
Benzo(a)anthracene	ND		mg/kg	0.099	0.019
Chrysene	ND		mg/kg	0.099	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.099	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	107		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	101		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/15/22 18:13
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/15/22 01:47

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 11 Batch: WG1663135-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	0.03	J	ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	39		23-120
2-Fluorobiphenyl	43		15-120
4-Terphenyl-d14	43		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237250

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 12 Batch: WG1662622-2 WG1662622-3								
Naphthalene	78		87		40-140	11		50
Fluorene	81		90		40-140	11		50
Phenanthrene	77		87		40-140	12		50
Anthracene	80		91		40-140	13		50
Pyrene	74		83		35-142	11		50
Benzo(a)anthracene	80		87		40-140	8		50
Chrysene	81		91		40-140	12		50
Benzo(b)fluoranthene	76		84		40-140	10		50
Benzo(a)pyrene	86		94		40-140	9		50
Benzo(ghi)perylene	71		78		40-140	9		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	88		98		23-120
2-Fluorobiphenyl	81		85		30-120
4-Terphenyl-d14	80		88		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237250

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 Batch: WG1663095-2 WG1663095-3								
Naphthalene	76		78		40-140	3		50
Fluorene	84		83		40-140	1		50
Phenanthrene	78		77		40-140	1		50
Anthracene	81		79		40-140	3		50
Pyrene	82		80		35-142	2		50
Benzo(a)anthracene	85		84		40-140	1		50
Chrysene	86		84		40-140	2		50
Benzo(b)fluoranthene	87		91		40-140	4		50
Benzo(a)pyrene	90		95		40-140	5		50
Benzo(ghi)perylene	85		78		40-140	9		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	113		116		23-120
2-Fluorobiphenyl	78		78		30-120
4-Terphenyl-d14	91		89		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237250
Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 11 Batch: WG1663135-2 WG1663135-3								
Naphthalene	90		84		40-140	7		40
Fluorene	90		88		40-140	2		40
Phenanthrene	91		85		40-140	7		40
Anthracene	90		86		40-140	5		40
Pyrene	96		91		26-127	5		40
Benzo(a)anthracene	94		90		40-140	4		40
Chrysene	90		86		40-140	5		40
Benzo(b)fluoranthene	97		90		40-140	7		40
Benzo(a)pyrene	95		88		40-140	8		40
Benzo(ghi)perylene	94		90		40-140	4		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	43		39		23-120
2-Fluorobiphenyl	43		42		15-120
4-Terphenyl-d14	48		45		41-149

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-01
Client ID: PB-882-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 11:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	9.65		mg/kg	4.74	0.254	2	07/14/22 20:35	07/19/22 09:45	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-02
Client ID: PB-882-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 11:40
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.10		mg/kg	4.59	0.246	2	07/14/22 20:35	07/19/22 09:49	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-03
Client ID: PB-882-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 11:50
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.09		mg/kg	4.50	0.241	2	07/14/22 20:35	07/19/22 10:12	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-04
Client ID: PB-882-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 12:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.96		mg/kg	4.56	0.244	2	07/14/22 20:35	07/19/22 10:17	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-05
Client ID: PB-882-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 12:10
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.62		mg/kg	4.66	0.250	2	07/14/22 20:35	07/19/22 10:22	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-06
Client ID: PB-882-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 12:20
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.78	J	mg/kg	4.65	0.249	2	07/14/22 20:35	07/19/22 10:26	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-07
Client ID: PB-882-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 12:30
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.45	J	mg/kg	4.80	0.257	2	07/14/22 20:35	07/19/22 10:31	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-08
Client ID: PB-882-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 12:40
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.69		mg/kg	4.61	0.247	2	07/14/22 20:35	07/19/22 10:35	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-09
Client ID: PB-882-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 12:50
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.37		mg/kg	4.65	0.249	2	07/14/22 20:35	07/19/22 10:40	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-10
Client ID: PB-882-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 13:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.83		mg/kg	4.54	0.243	2	07/14/22 20:35	07/19/22 10:44	EPA 3050B	1,6010D	EW

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-11
Client ID: FB-071322-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 14:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/15/22 14:25	07/18/22 20:08	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237250
Project Number: 200.00135.006
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-12
Client ID: DUP-43
Sample Location: PHILADELPHIA, PA
Date Collected: 07/13/22 00:00
Date Received: 07/13/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	11.8		mg/kg	4.44	0.238	2	07/14/22 21:44	07/19/22 20:35	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 12 Batch: WG1663051-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/14/22 21:44	07/19/22 00:37	1,6010D	BV

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-10 Batch: WG1663069-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/14/22 20:35	07/19/22 07:16	1,6010D	EW

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 11 Batch: WG1663390-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/15/22 14:25	07/18/22 18:50	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237250

Report Date: 07/20/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 12 Batch: WG1663051-2 SRM Lot Number: D113-540								
Lead, Total	86		-		72-128	-		
Total Metals - Mansfield Lab Associated sample(s): 01-10 Batch: WG1663069-2 SRM Lot Number: D113-540								
Lead, Total	82		-		72-128	-		
Total Metals - Mansfield Lab Associated sample(s): 11 Batch: WG1663390-2								
Lead, Total	102		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237250
Report Date: 07/20/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 12 QC Batch ID: WG1663051-3 QC Sample: L2237250-12 Client ID: DUP-43												
Lead, Total	11.8	49.3	50.6	79		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG1663069-3 QC Sample: L2237246-02 Client ID: MS Sample												
Lead, Total	3.36J	43.7	28.9	**66**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 11 QC Batch ID: WG1663390-3 WG1663390-4 QC Sample: L2237672-03 Client ID: MS Sample												
Lead, Total	0.9553J	530	569.8	108		561.0	106		75-125	2		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237250

Report Date: 07/20/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 12 QC Batch ID: WG1663051-4 QC Sample: L2237250-12 Client ID: DUP-43						
Lead, Total	11.8	11.4	mg/kg	3		20
Total Metals - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG1663069-4 QC Sample: L2237246-02 Client ID: DUP Sample						
Lead, Total	3.36J	2.92J	mg/kg	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-01
Client ID: PB-882-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 11:30
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.2		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-02
Client ID: PB-882-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 11:40
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.8		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-03
Client ID: PB-882-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/13/22 11:50
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.4		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-04
Client ID: PB-882-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 12:00
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.4		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-05
Client ID: PB-882-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/13/22 12:10
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.1		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-06
Client ID: PB-882-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 12:20
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-07
Client ID: PB-882-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 12:30
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.0		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-08
Client ID: PB-882-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/13/22 12:40
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.1		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-09
Client ID: PB-882-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 12:50
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.0		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-10
Client ID: PB-882-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 13:00
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.2		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237250
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2237250-12
Client ID: DUP-43
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/13/22 00:00
Date Received: 07/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.4		%	0.100	NA	1	-	07/15/22 13:26	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237250

Report Date: 07/20/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-10,12 QC Batch ID: WG1663380-1 QC Sample: L2237250-01 Client ID: PB-882-03-SS01						
Solids, Total	82.2	81.8	%	0		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237250
Report Date: 07/20/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237250-01A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-01B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-01C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-01D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-01F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-02A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-02B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-02C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-02D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-02F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-03A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-03B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-03C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-03D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-03F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-04A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-04B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-04C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-04D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237250
Report Date: 07/20/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237250-04F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-05A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-05B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-05C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-05D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-05F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-06A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-06B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-06C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-06D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-06F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-07A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-07B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-07C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-07D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-07E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-07F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-08A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-08B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-08C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-08D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-08E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-08F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-09A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-09B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-09C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237250
Report Date: 07/20/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237250-09D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-09E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-09F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-10A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-10B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-10C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-10D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-10E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-10F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)
L2237250-11A	Vial HCl preserved	A	NA		4.6	Y	Absent		PA-8260(14)
L2237250-11B	Vial HCl preserved	A	NA		4.6	Y	Absent		PA-8260(14)
L2237250-11C	Vial HCl preserved	A	NA		4.6	Y	Absent		PA-8260(14)
L2237250-11D	Vial HCl preserved	A	NA		4.6	Y	Absent		8011(14)
L2237250-11E	Vial HCl preserved	A	NA		4.6	Y	Absent		8011(14)
L2237250-11F	Amber 250ml unpreserved	A	7	7	4.6	Y	Absent		PA-PAHSIM-LVI(7)
L2237250-11G	Amber 250ml unpreserved	A	7	7	4.6	Y	Absent		PA-PAHSIM-LVI(7)
L2237250-11H	Plastic 250ml HNO3 preserved	A	<2	<2	4.6	Y	Absent		PB-6020T-PPB(180)
L2237250-12A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2237250-12B	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-12C	Vial water preserved	A	NA		4.6	Y	Absent	14-JUL-22 14:19	PA-8260HLW(14)
L2237250-12D	Plastic 2oz unpreserved for TS	A	NA		4.6	Y	Absent		TS(7)
L2237250-12E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		PB-TI(180)
L2237250-12F	Glass 120ml/4oz unpreserved	A	NA		4.6	Y	Absent		PA-PAH(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237250
Project Number:	200.00135.006	**Report Date:**	07/20/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237250
Project Number:	200.00135.006	**Report Date:**	07/20/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237250
Project Number:	200.00135.006	**Report Date:**	07/20/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237250
Project Number:	200.00135.006	**Report Date:**	07/20/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/14/22

ALPHA Job #: L2237250

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
37250 1	PB-SB2-03-5501	7/13/22	1130	S	AV	
2	PB-SB2-04-5501		1140			
3	PB-SB2-05-5501		1150			
4	PB-SB2-06-5501		1200			
5	PB-SB2-07-5501		1210			
6	PB-SB2-08-5501		1220			
7	PB-SB2-09-5501		1230			
8	PB-SB2-11-5501		1240			
9	PB-SB2-12-5501		1250			
10	PB-SB2-13-5501		1300			

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/13/22	SJ for AAL	7/14/22 1535
	7/13/22 1500		7-13-1601
	7-13-2105		7/13/22 2100
	7/13/22		7/15/22 2350

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(HEL) (rev. 9-JAN-12)

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 7/14/22

ALPHA Job #: L2237250

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information

☐ FAX ☒ ADEx

Data Deliverables

☒ EMAIL ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program: Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

5-1 TSI + Naphs

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
37250-11	~~FB~~ FB-071322-1	7/13/22	1400	W	CW	
12	DUP-43	↓	—	S	↓	

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/13/22	STL AAL	7/13/22 14:35
	7/13/22 1800		7-13 1900
	7-13 2100		7/13/22 2100
	7/13/22		
7/14/22 0205		7/14/22	2215

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

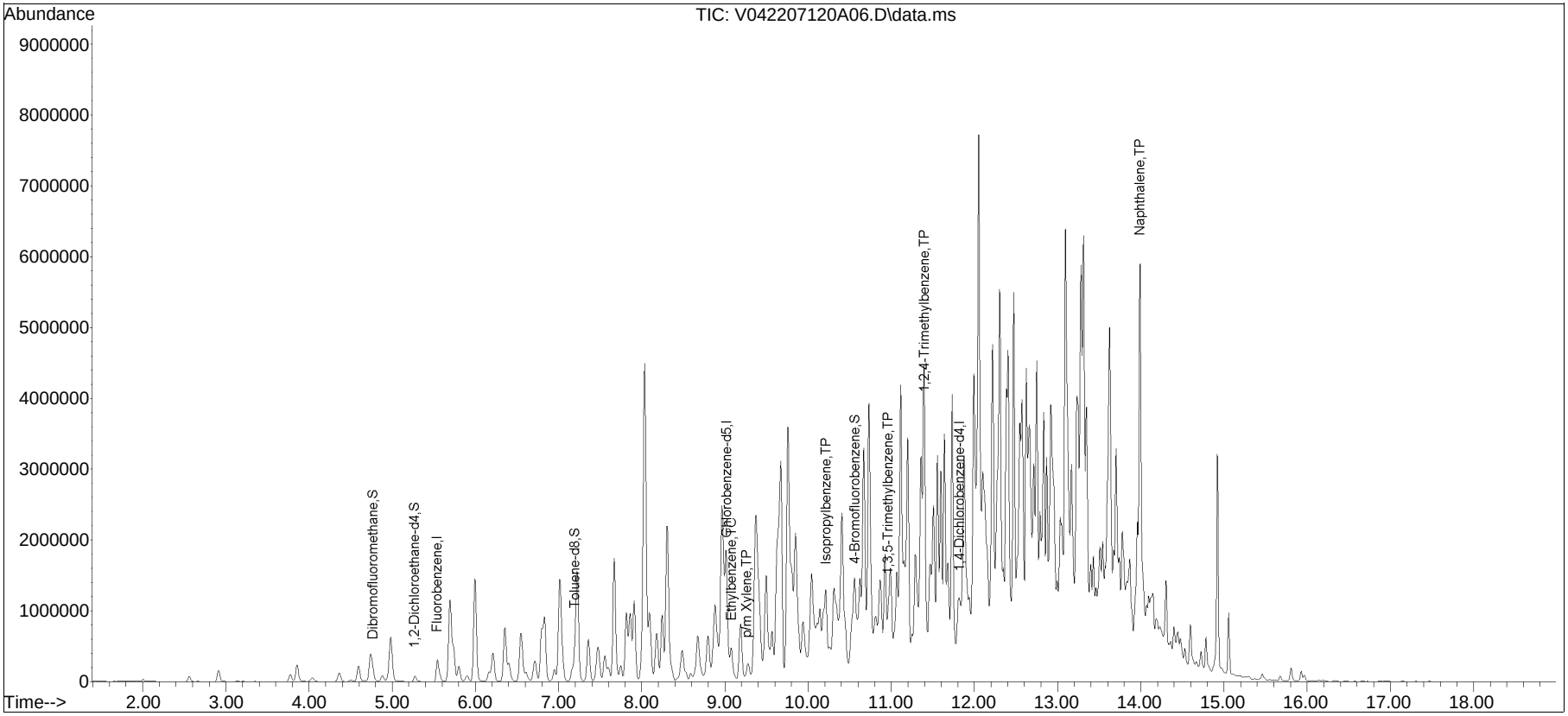
FORM NO: 01-01(M) (rev. 5-JAN-12)

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA104\2022\2207120A\
Data File : V042207120A06.D
Acq On : 20 Jul 2022 9:17 am
Operator : VOA104:NLK
Sample : L2237250-06,31,6.67,5,,B,R2F
Misc : WG1665306,ICAL19119
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 20 13:39:16 2022
Quant Method : I:\VOLATILES\VOA104\2022\2207120A\V104_220621A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 22 06:56:43 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list120A\V042207120A01.D•

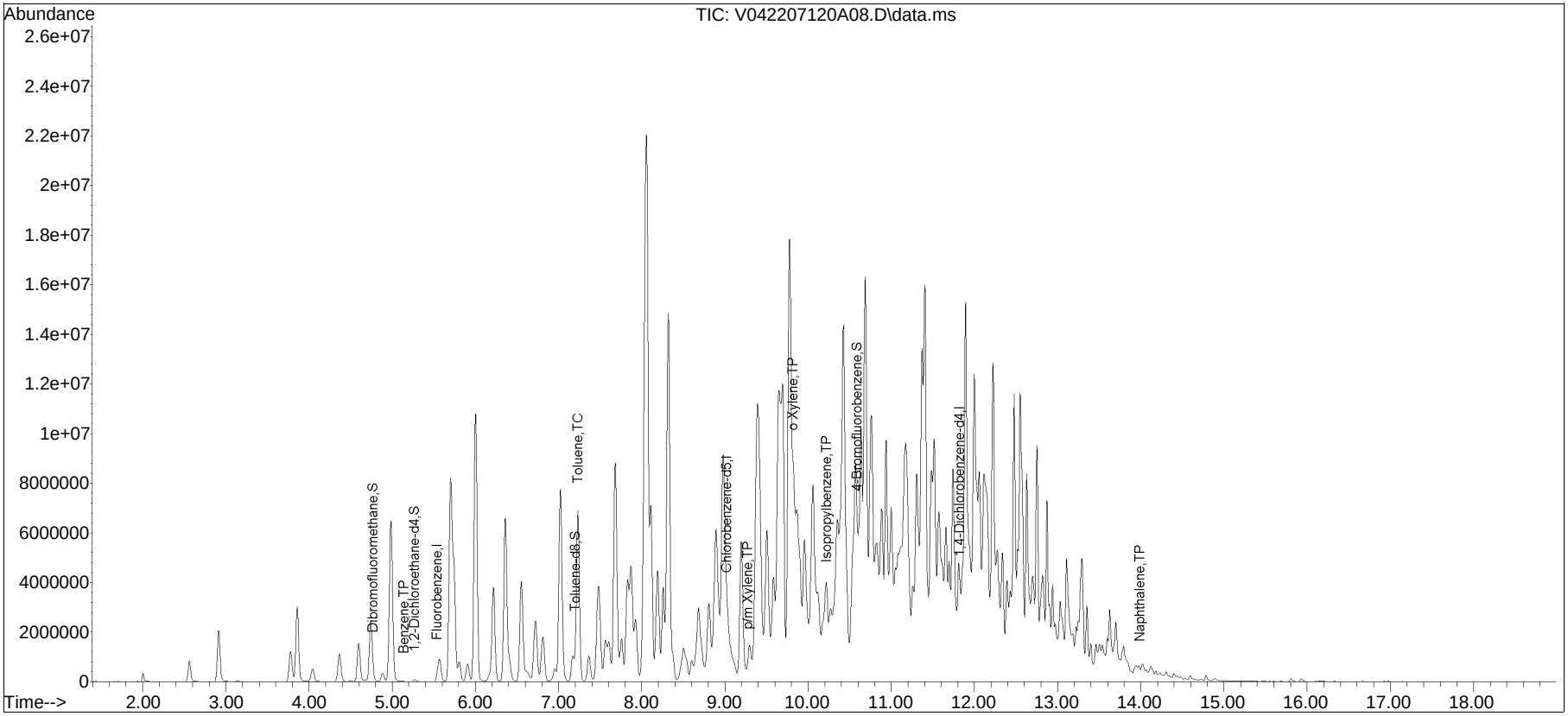


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA104\2022\2207120A\
Data File : V042207120A08.D
Acq On : 20 Jul 2022 10:09 am
Operator : VOA104:NLK
Sample : L2237250-07,31,5.81,5,,B,R2F
Misc : WG1665306,ICAL19119
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 20 13:41:00 2022
Quant Method : I:\VOLATILES\VOA104\2022\2207120A\V104_220621A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 22 06:56:43 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list120A\V042207120A01.D•



ANALYTICAL REPORT

Lab Number:	L2237705
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/21/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2237705-01	PB-826-11-SS01	SOIL	PHILADELPHIA, PA	07/14/22 08:15	07/14/22
L2237705-02	PB-826-12-SS01	SOIL	PHILADELPHIA, PA	07/14/22 08:30	07/14/22
L2237705-03	PB-826-13-SS01	SOIL	PHILADELPHIA, PA	07/14/22 08:45	07/14/22
L2237705-04	PB-826-14-SS01	SOIL	PHILADELPHIA, PA	07/14/22 09:00	07/14/22
L2237705-05	PB-826-15-SS01	SOIL	PHILADELPHIA, PA	07/14/22 09:15	07/14/22
L2237705-06	PB-826-16-SS01	SOIL	PHILADELPHIA, PA	07/14/22 09:30	07/14/22
L2237705-07	PB-884-08-SS01	SOIL	PHILADELPHIA, PA	07/14/22 10:15	07/14/22
L2237705-08	PB-884-09-SS01	SOIL	PHILADELPHIA, PA	07/14/22 10:30	07/14/22
L2237705-09	PB-884-13-SS01	SOIL	PHILADELPHIA, PA	07/14/22 10:45	07/14/22
L2237705-10	PB-884-14-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:00	07/14/22
L2237705-11	PB-884-15-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:15	07/14/22
L2237705-12	PB-884-16-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:30	07/14/22
L2237705-13	PB-884-17-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:45	07/14/22
L2237705-14	PB-884-18-SS01	SOIL	PHILADELPHIA, PA	07/14/22 12:00	07/14/22
L2237705-15	PB-884-19-SS01	SOIL	PHILADELPHIA, PA	07/14/22 12:15	07/14/22
L2237705-16	PB-884-20-SS01	SOIL	PHILADELPHIA, PA	07/14/22 12:30	07/14/22
L2237705-17	PB-884-21-SS01	SOIL	PHILADELPHIA, PA	07/14/22 12:45	07/14/22
L2237705-18	PB-884-23-SS01	SOIL	PHILADELPHIA, PA	07/14/22 13:00	07/14/22
L2237705-19	DUP-44	SOIL	PHILADELPHIA, PA	07/14/22 00:00	07/14/22
L2237705-20	FB-071422-3	WATER	PHILADELPHIA, PA	07/14/22 13:05	07/14/22
L2237705-21	FB-071422-4	WATER	PHILADELPHIA, PA	07/14/22 13:10	07/14/22
L2237705-22	TB-071422	WATER	PHILADELPHIA, PA	07/14/22 00:00	07/14/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237705
Project Number:	200.00135.006	**Report Date:**	07/21/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237705
Project Number:	200.00135.006	**Report Date:**	07/21/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2237705-07: The surrogate recovery was outside the acceptance criteria for 1,2-dichloroethane-d4 (131%) due to obvious interferences. A copy of the chromatogram is included as an attachment to this report. The sample was analyzed as a High Level Methanol in order to quantitate result(s) within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial Low Level analysis. The results of both analyses are reported. Differences were noted between the results of the Volatile Organics by EPA Method 5035/8260 High and Low Level analyses which have been attributed to vial discrepancies.

L2237705-08: The surrogate recoveries are outside the acceptance criteria for toluene-d8 (139%) and 4-bromofluorobenzene (149%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2237705-11: The surrogate recoveries are outside the acceptance criteria for toluene-d8 (157%) and 4-bromofluorobenzene (157%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2237705-19: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (143%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Semivolatile Organics by SIM

The WG1663477-1 Method Blank, associated with L2237705-20 and -21, has a concentration above the reporting limit for benzo(b)fluoranthene. Since the associated sample concentrations are either greater than 10x the blank concentration or non-detect to the RL for this target analyte, no corrective action is required. Any results detected below the reporting limit are qualified with a "B".

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Case Narrative (continued)

Total Metals

L2237705-01, -02, -03, -07, and -14: The sample has an elevated detection limit for lead due to the dilution required by matrix interferences encountered during analysis.

The WG1663364-3 MS recovery, performed on L2237705-15, is outside the acceptance criteria for lead (58%). A post digestion spike was performed and yielded an unacceptable recovery of 32%. The serial dilution recovery was not applicable; therefore, this element fails the matrix test and the result reported in the native sample should be considered estimated.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 07/21/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-01
Client ID: PB-826-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 08:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 14:07
Analyst: NLK
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00059	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00064	1
1,2-Dibromoethane	ND		mg/kg	0.00059	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0024	0.00066	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-02
Client ID: PB-826-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 08:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 14:36
Analyst: NLK
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00061	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-03
Client ID: PB-826-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 08:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 15:06
Analyst: NLK
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0028	0.00028	1
Benzene	ND		mg/kg	0.00070	0.00023	1
1,2-Dichloroethane	ND		mg/kg	0.0014	0.00036	1
Toluene	ND		mg/kg	0.0014	0.00076	1
1,2-Dibromoethane	ND		mg/kg	0.00070	0.00041	1
Ethylbenzene	ND		mg/kg	0.0014	0.00020	1
p/m-Xylene	ND		mg/kg	0.0028	0.00079	1
o-Xylene	ND		mg/kg	0.0014	0.00041	1
Xylenes, Total	ND		mg/kg	0.0014	0.00041	1
Isopropylbenzene	ND		mg/kg	0.0014	0.00015	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0028	0.00027	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0028	0.00047	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-04
Client ID: PB-826-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 21:40
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.12	0.012	1
Benzene	ND		mg/kg	0.031	0.010	1
1,2-Dichloroethane	ND		mg/kg	0.062	0.016	1
Toluene	ND		mg/kg	0.062	0.034	1
1,2-Dibromoethane	ND		mg/kg	0.031	0.018	1
Ethylbenzene	0.73		mg/kg	0.062	0.0087	1
p/m-Xylene	0.16		mg/kg	0.12	0.035	1
o-Xylene	0.054	J	mg/kg	0.062	0.018	1
Xylenes, Total	0.21	J	mg/kg	0.062	0.018	1
Isopropylbenzene	0.28		mg/kg	0.062	0.0068	1
1,3,5-Trimethylbenzene	4.4		mg/kg	0.12	0.012	1
1,2,4-Trimethylbenzene	12.		mg/kg	0.12	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	85		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-05
Client ID: PB-826-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 16:09
Analyst: AJK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0034	0.00035	1
Benzene	ND		mg/kg	0.00086	0.00029	1
1,2-Dichloroethane	ND		mg/kg	0.0017	0.00044	1
Toluene	ND		mg/kg	0.0017	0.00094	1
1,2-Dibromoethane	ND		mg/kg	0.00086	0.00051	1
Ethylbenzene	ND		mg/kg	0.0017	0.00024	1
p/m-Xylene	ND		mg/kg	0.0034	0.00097	1
o-Xylene	ND		mg/kg	0.0017	0.00050	1
Xylenes, Total	ND		mg/kg	0.0017	0.00050	1
Isopropylbenzene	ND		mg/kg	0.0017	0.00019	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0034	0.00033	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0034	0.00058	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-06
Client ID: PB-826-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 16:09
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0036	0.00036	1
Benzene	ND		mg/kg	0.00089	0.00030	1
1,2-Dichloroethane	ND		mg/kg	0.0018	0.00046	1
Toluene	ND		mg/kg	0.0018	0.00096	1
1,2-Dibromoethane	ND		mg/kg	0.00089	0.00052	1
Ethylbenzene	ND		mg/kg	0.0018	0.00025	1
p/m-Xylene	ND		mg/kg	0.0036	0.0010	1
o-Xylene	ND		mg/kg	0.0018	0.00052	1
Xylenes, Total	ND		mg/kg	0.0018	0.00052	1
Isopropylbenzene	ND		mg/kg	0.0018	0.00019	1
1,3,5-Trimethylbenzene	0.00089	J	mg/kg	0.0036	0.00034	1
1,2,4-Trimethylbenzene	0.00061	J	mg/kg	0.0036	0.00059	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-07
Client ID: PB-884-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 22:09
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.013	1
Benzene	0.15		mg/kg	0.033	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.065	0.017	1
Toluene	0.082		mg/kg	0.065	0.035	1
1,2-Dibromoethane	ND		mg/kg	0.033	0.019	1
Ethylbenzene	0.14		mg/kg	0.065	0.0092	1
p/m-Xylene	4.9		mg/kg	0.13	0.036	1
o-Xylene	0.50		mg/kg	0.065	0.019	1
Xylenes, Total	5.4		mg/kg	0.065	0.019	1
Isopropylbenzene	0.080		mg/kg	0.065	0.0071	1
1,3,5-Trimethylbenzene	0.66		mg/kg	0.13	0.012	1
1,2,4-Trimethylbenzene	2.1		mg/kg	0.13	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-07
Client ID: PB-884-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/21/22 06:20
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0016	0.00016	1
Benzene	0.020		mg/kg	0.00040	0.00013	1
1,2-Dichloroethane	0.00061	J	mg/kg	0.00080	0.00020	1
Toluene	0.00095		mg/kg	0.00080	0.00043	1
1,2-Dibromoethane	ND		mg/kg	0.00040	0.00023	1
Ethylbenzene	0.022		mg/kg	0.00080	0.00011	1
p/m-Xylene	1.4	E	mg/kg	0.0016	0.00045	1
o-Xylene	0.054		mg/kg	0.00080	0.00023	1
Isopropylbenzene	0.014		mg/kg	0.00080	0.00008	1
1,3,5-Trimethylbenzene	0.12		mg/kg	0.0016	0.00015	1
1,2,4-Trimethylbenzene	0.34	E	mg/kg	0.0016	0.00027	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**131**	Q	70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-08
Client ID: PB-884-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/20/22 17:38
Analyst: JC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.14	0.014	1
Benzene	2.0		mg/kg	0.034	0.011	1
1,2-Dichloroethane	ND		mg/kg	0.068	0.017	1
Toluene	13.		mg/kg	0.068	0.037	1
1,2-Dibromoethane	ND		mg/kg	0.034	0.020	1
Ethylbenzene	6.6		mg/kg	0.068	0.0096	1
p/m-Xylene	28.		mg/kg	0.14	0.038	1
o-Xylene	13.		mg/kg	0.068	0.020	1
Xylenes, Total	41.		mg/kg	0.068	0.020	1
Isopropylbenzene	2.8		mg/kg	0.068	0.0074	1
1,3,5-Trimethylbenzene	3.7		mg/kg	0.14	0.013	1
1,2,4-Trimethylbenzene	12.		mg/kg	0.14	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	71		70-130
Toluene-d8	**139**	Q	70-130
4-Bromofluorobenzene	**149**	Q	70-130
Dibromofluoromethane	71		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-09
Client ID: PB-884-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 16:40
Analyst: NLK
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00057	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00031	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-10
Client ID: PB-884-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 17:11
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0022	0.00060	1
o-Xylene	ND		mg/kg	0.0011	0.00031	1
Xylenes, Total	ND		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-11
Client ID: PB-884-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/21/22 09:34
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.12	0.012	1
Benzene	2.6		mg/kg	0.029	0.0098	1
1,2-Dichloroethane	ND		mg/kg	0.059	0.015	1
Toluene	9.0		mg/kg	0.059	0.032	1
1,2-Dibromoethane	ND		mg/kg	0.029	0.017	1
Ethylbenzene	8.8		mg/kg	0.059	0.0083	1
p/m-Xylene	32.		mg/kg	0.12	0.033	1
o-Xylene	15.		mg/kg	0.059	0.017	1
Xylenes, Total	47.		mg/kg	0.059	0.017	1
Isopropylbenzene	3.6		mg/kg	0.059	0.0064	1
1,3,5-Trimethylbenzene	4.5		mg/kg	0.12	0.011	1
1,2,4-Trimethylbenzene	14.		mg/kg	0.12	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	**157**	Q	70-130
4-Bromofluorobenzene	**157**	Q	70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-12
Client ID: PB-884-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 17:41
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0036	0.00036	1
Benzene	ND		mg/kg	0.00090	0.00030	1
1,2-Dichloroethane	ND		mg/kg	0.0018	0.00046	1
Toluene	ND		mg/kg	0.0018	0.00097	1
1,2-Dibromoethane	ND		mg/kg	0.00090	0.00052	1
Ethylbenzene	ND		mg/kg	0.0018	0.00025	1
p/m-Xylene	ND		mg/kg	0.0036	0.0010	1
o-Xylene	ND		mg/kg	0.0018	0.00052	1
Xylenes, Total	ND		mg/kg	0.0018	0.00052	1
Isopropylbenzene	ND		mg/kg	0.0018	0.00020	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0036	0.00035	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0036	0.00060	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-13
Client ID: PB-884-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 18:11
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00024	1
Benzene	ND		mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00063	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00065	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-14
Client ID: PB-884-18-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 12:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 18:41
Analyst: NLK
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00054	J	mg/kg	0.0022	0.00022	1
Benzene	0.035		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00059	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	0.024		mg/kg	0.0011	0.00015	1
p/m-Xylene	0.026		mg/kg	0.0022	0.00061	1
o-Xylene	0.0015		mg/kg	0.0011	0.00032	1
Xylenes, Total	0.028		mg/kg	0.0011	0.00032	1
Isopropylbenzene	0.0053		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.010		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	0.033		mg/kg	0.0022	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-15
Client ID: PB-884-19-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 12:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 19:11
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	0.00036	J	mg/kg	0.00057	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00062	1
1,2-Dibromoethane	ND		mg/kg	0.00057	0.00033	1
Ethylbenzene	0.0024		mg/kg	0.0011	0.00016	1
p/m-Xylene	0.024		mg/kg	0.0023	0.00063	1
o-Xylene	0.026		mg/kg	0.0011	0.00033	1
Xylenes, Total	0.050		mg/kg	0.0011	0.00033	1
Isopropylbenzene	0.0044		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.022		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	0.052		mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	129		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-16
Client ID: PB-884-20-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 19:40
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0022	0.00022	1
Benzene	ND		mg/kg	0.00055	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00060	1
1,2-Dibromoethane	ND		mg/kg	0.00055	0.00032	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0022	0.00062	1
o-Xylene	ND		mg/kg	0.0011	0.00032	1
Xylenes, Total	ND		mg/kg	0.0011	0.00032	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-17
Client ID: PB-884-21-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 20:10
Analyst: NLK
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00047	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00094	0.00024	1
Toluene	ND		mg/kg	0.00094	0.00051	1
1,2-Dibromoethane	ND		mg/kg	0.00047	0.00028	1
Ethylbenzene	ND		mg/kg	0.00094	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00053	1
o-Xylene	ND		mg/kg	0.00094	0.00028	1
Xylenes, Total	ND		mg/kg	0.00094	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00094	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-18
Client ID: PB-884-23-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 13:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 06:09
Analyst: JC
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	84		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	107		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-19
Client ID: DUP-44
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 00:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 17:58
Analyst: JC
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.14	0.014	1
Benzene	0.068		mg/kg	0.036	0.012	1
1,2-Dichloroethane	ND		mg/kg	0.071	0.018	1
Toluene	0.051	J	mg/kg	0.071	0.038	1
1,2-Dibromoethane	ND		mg/kg	0.036	0.021	1
Ethylbenzene	0.56		mg/kg	0.071	0.010	1
p/m-Xylene	21.		mg/kg	0.14	0.040	1
o-Xylene	8.4		mg/kg	0.071	0.021	1
Xylenes, Total	29.		mg/kg	0.071	0.021	1
Isopropylbenzene	1.0		mg/kg	0.071	0.0077	1
1,3,5-Trimethylbenzene	4.8		mg/kg	0.14	0.014	1
1,2,4-Trimethylbenzene	15.		mg/kg	0.14	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	**143**	Q	70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-20
Client ID: FB-071422-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 13:05
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 18:03
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-20
Client ID: FB-071422-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 13:05
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/17/22 14:16
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	128		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	119		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-21
Client ID: FB-071422-4
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 13:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 18:10
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-21
Client ID: FB-071422-4
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 13:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/17/22 14:38
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**131**	Q	70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	120		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-22
Client ID: TB-071422
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 00:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 18:16
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-22
Client ID: TB-071422
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 00:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/17/22 14:59
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	127		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	124		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/15/22 16:10
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 20-22 Batch: WG1663450-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/17/22 13:55
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 20-22 Batch: WG1664113-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
1,2-Dibromoethane	ND		ug/l	2.0	0.19
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	127		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	117		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/18/22 13:35
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-03,06,09-10,12-17 Batch: WG1664656-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/18/22 13:35
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 04,07 Batch: WG1664660-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/18/22 21:42
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 18 Batch: WG1664672-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/19/22 09:51
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 05 Batch: WG1664964-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/19/22 16:38
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 19 Batch: WG1665199-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/20/22 08:50
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 08 Batch: WG1665578-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	91		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/20/22 23:10
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 07 Batch: WG1665590-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	100		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/21/22 08:51
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 11 Batch: WG1665734-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	100		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237705

Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 20-22 Batch: WG1663450-2								
1,2-Dibromoethane	97		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237705

Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 20-22 Batch: WG1664113-3 WG1664113-4								
Methyl tert butyl ether	90		86		63-130	5		20
Benzene	86		82		70-130	5		20
1,2-Dichloroethane	100		96		70-130	4		20
Toluene	83		84		70-130	1		20
1,2-Dibromoethane	83		82		70-130	1		20
Ethylbenzene	90		91		70-130	1		20
p/m-Xylene	90		90		70-130	0		20
o-Xylene	90		90		70-130	0		20
Isopropylbenzene	86		87		70-130	1		20
1,3,5-Trimethylbenzene	90		92		64-130	2		20
1,2,4-Trimethylbenzene	89		88		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	117		116		70-130
Toluene-d8	98		97		70-130
4-Bromofluorobenzene	98		99		70-130
Dibromofluoromethane	109		111		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-03,06,09-10,12-17 Batch: WG1664656-3 WG1664656-4								
Methyl tert butyl ether	115		118		66-130	3		30
Benzene	108		108		70-130	0		30
1,2-Dichloroethane	96		100		70-130	4		30
Toluene	108		109		70-130	1		30
1,2-Dibromoethane	106		110		70-130	4		30
Ethylbenzene	106		107		70-130	1		30
p/m-Xylene	107		108		70-130	1		30
o-Xylene	106		108		70-130	2		30
Isopropylbenzene	111		110		70-130	1		30
1,3,5-Trimethylbenzene	107		107		70-130	0		30
1,2,4-Trimethylbenzene	107		108		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		96		70-130
Toluene-d8	102		103		70-130
4-Bromofluorobenzene	106		106		70-130
Dibromofluoromethane	91		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 04,07 Batch: WG1664660-3 WG1664660-4								
Methyl tert butyl ether	115		118		66-130	3		30
Benzene	108		108		70-130	0		30
1,2-Dichloroethane	96		100		70-130	4		30
Toluene	108		109		70-130	1		30
1,2-Dibromoethane	106		110		70-130	4		30
Ethylbenzene	106		107		70-130	1		30
p/m-Xylene	107		108		70-130	1		30
o-Xylene	106		108		70-130	2		30
Isopropylbenzene	111		110		70-130	1		30
1,3,5-Trimethylbenzene	107		107		70-130	0		30
1,2,4-Trimethylbenzene	107		108		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		96		70-130
Toluene-d8	102		103		70-130
4-Bromofluorobenzene	106		106		70-130
Dibromofluoromethane	91		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 18 Batch: WG1664672-3 WG1664672-4								
Methyl tert butyl ether	90		90		66-130	0		30
Benzene	90		90		70-130	0		30
1,2-Dichloroethane	90		90		70-130	0		30
Toluene	90		92		70-130	2		30
1,2-Dibromoethane	96		98		70-130	2		30
Ethylbenzene	89		90		70-130	1		30
p/m-Xylene	94		96		70-130	2		30
o-Xylene	93		94		70-130	1		30
Isopropylbenzene	72		87		70-130	19		30
1,3,5-Trimethylbenzene	85		87		70-130	2		30
1,2,4-Trimethylbenzene	83		86		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		100		70-130
Toluene-d8	98		102		70-130
4-Bromofluorobenzene	83		84		70-130
Dibromofluoromethane	106		105		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 05 Batch: WG1664964-3 WG1664964-4								
Methyl tert butyl ether	122		119		66-130	2		30
Benzene	110		103		70-130	7		30
1,2-Dichloroethane	102		100		70-130	2		30
Toluene	108		103		70-130	5		30
1,2-Dibromoethane	109		109		70-130	0		30
Ethylbenzene	107		102		70-130	5		30
p/m-Xylene	109		103		70-130	6		30
o-Xylene	108		103		70-130	5		30
Isopropylbenzene	110		103		70-130	7		30
1,3,5-Trimethylbenzene	107		101		70-130	6		30
1,2,4-Trimethylbenzene	108		102		70-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		96		70-130
Toluene-d8	102		102		70-130
4-Bromofluorobenzene	105		105		70-130
Dibromofluoromethane	93		92		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237705

Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 19 Batch: WG1665199-3 WG1665199-4								
Methyl tert butyl ether	81		84		66-130	4		30
Benzene	77		80		70-130	4		30
1,2-Dichloroethane	75		78		70-130	4		30
Toluene	71		73		70-130	3		30
1,2-Dibromoethane	79		82		70-130	4		30
Ethylbenzene	72		76		70-130	5		30
p/m-Xylene	73		76		70-130	4		30
o-Xylene	77		80		70-130	4		30
Isopropylbenzene	74		75		70-130	1		30
1,3,5-Trimethylbenzene	74		77		70-130	4		30
1,2,4-Trimethylbenzene	74		77		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	96		96		70-130
4-Bromofluorobenzene	98		97		70-130
Dibromofluoromethane	102		101		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 08 Batch: WG1665578-3 WG1665578-4								
Methyl tert butyl ether	100		98		66-130	2		30
Benzene	88		84		70-130	5		30
1,2-Dichloroethane	**69**	Q	**66**	Q	70-130	4		30
Toluene	88		85		70-130	3		30
1,2-Dibromoethane	85		83		70-130	2		30
Ethylbenzene	85		82		70-130	4		30
p/m-Xylene	88		86		70-130	2		30
o-Xylene	87		84		70-130	4		30
Isopropylbenzene	92		89		70-130	3		30
1,3,5-Trimethylbenzene	88		86		70-130	2		30
1,2,4-Trimethylbenzene	87		85		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	76		75		70-130
Toluene-d8	102		101		70-130
4-Bromofluorobenzene	104		103		70-130
Dibromofluoromethane	78		77		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 07 Batch: WG1665590-3 WG1665590-4								
Methyl tert butyl ether	102		98		66-130	4		30
Benzene	104		102		70-130	2		30
1,2-Dichloroethane	104		100		70-130	4		30
Toluene	100		99		70-130	1		30
1,2-Dibromoethane	102		98		70-130	4		30
Ethylbenzene	103		101		70-130	2		30
p/m-Xylene	104		103		70-130	1		30
o-Xylene	103		101		70-130	2		30
Isopropylbenzene	97		97		70-130	0		30
1,3,5-Trimethylbenzene	99		98		70-130	1		30
1,2,4-Trimethylbenzene	98		98		70-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		97		70-130
Toluene-d8	99		98		70-130
4-Bromofluorobenzene	98		96		70-130
Dibromofluoromethane	100		99		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237705

Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 11 Batch: WG1665734-3 WG1665734-4								
Methyl tert butyl ether	91		90		66-130	1		30
Benzene	95		92		70-130	3		30
1,2-Dichloroethane	98		95		70-130	3		30
Toluene	90		87		70-130	3		30
1,2-Dibromoethane	94		91		70-130	3		30
Ethylbenzene	96		92		70-130	4		30
p/m-Xylene	95		91		70-130	4		30
o-Xylene	94		91		70-130	3		30
Isopropylbenzene	95		91		70-130	4		30
1,3,5-Trimethylbenzene	96		91		70-130	5		30
1,2,4-Trimethylbenzene	95		92		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	105		104		70-130
Toluene-d8	99		98		70-130
4-Bromofluorobenzene	97		96		70-130
Dibromofluoromethane	98		98		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-01
Client ID: PB-826-11-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 08:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 14:40
Analyst: SLR
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.034	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-02
Client ID: PB-826-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 08:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 15:02
Analyst: SLR
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-03
Client ID: PB-826-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 08:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 15:25
Analyst: SLR
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.044	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	87		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-04
Client ID: PB-826-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 15:48
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.32		mg/kg	0.19	0.024	1
Fluorene	0.18	J	mg/kg	0.19	0.019	1
Phenanthrene	0.64		mg/kg	0.12	0.024	1
Anthracene	0.061	J	mg/kg	0.12	0.038	1
Pyrene	0.16		mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.030	J	mg/kg	0.12	0.022	1
Chrysene	0.042	J	mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	91		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-05
Client ID: PB-826-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 16:11
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.052	J	mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	0.15		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	0.18		mg/kg	0.12	0.019	1
Benzo(a)anthracene	0.069	J	mg/kg	0.12	0.022	1
Chrysene	0.095	J	mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	0.055	J	mg/kg	0.12	0.032	1
Benzo(a)pyrene	0.053	J	mg/kg	0.15	0.047	1
Benzo(ghi)perylene	0.041	J	mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	81		30-120
4-Terphenyl-d14	93		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-06
Client ID: PB-826-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 16:34
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.025	J	mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	71		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-07
Client ID: PB-884-08-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 16:56
Analyst: SLR
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.84		mg/kg	0.19	0.023	1
Fluorene	0.25		mg/kg	0.19	0.018	1
Phenanthrene	0.45		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	0.13		mg/kg	0.11	0.019	1
Benzo(a)anthracene	0.058	J	mg/kg	0.11	0.022	1
Chrysene	0.11		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	0.080	J	mg/kg	0.11	0.032	1
Benzo(a)pyrene	0.055	J	mg/kg	0.15	0.047	1
Benzo(ghi)perylene	0.041	J	mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	67		23-120
2-Fluorobiphenyl	68		30-120
4-Terphenyl-d14	85		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-08
Client ID: PB-884-09-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 17:19
Analyst: SLR
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	3.2		mg/kg	0.17	0.021	1
Fluorene	0.25		mg/kg	0.17	0.017	1
Phenanthrene	0.70		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	0.056	J	mg/kg	0.10	0.017	1
Benzo(a)anthracene	0.022	J	mg/kg	0.10	0.019	1
Chrysene	0.092	J	mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	110		23-120
2-Fluorobiphenyl	89		30-120
4-Terphenyl-d14	105		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-09
Client ID: PB-884-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 17:42
Analyst: SLR
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	81		30-120
4-Terphenyl-d14	95		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-10
Client ID: PB-884-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 18:04
Analyst: SLR
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	87		30-120
4-Terphenyl-d14	101		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-11
Client ID: PB-884-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 18:27
Analyst: SLR
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 21:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.85		mg/kg	0.17	0.021	1
Fluorene	0.13	J	mg/kg	0.17	0.017	1
Phenanthrene	0.45		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	0.036	J	mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	0.059	J	mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	81		30-120
4-Terphenyl-d14	92		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-12
Client ID: PB-884-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 15:48
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	61		30-120
4-Terphenyl-d14	65		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-13
Client ID: PB-884-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 18:50
Analyst: SLR
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.021	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	86		30-120
4-Terphenyl-d14	98		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-14
Client ID: PB-884-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 19:13
Analyst: SLR
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.050	J	mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	79		30-120
4-Terphenyl-d14	88		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-15
Client ID: PB-884-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 19:35
Analyst: SLR
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.085	J	mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	0.040	J	mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-16
Client ID: PB-884-20-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 19:58
Analyst: SLR
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	83		30-120
4-Terphenyl-d14	96		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-17
Client ID: PB-884-21-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 16:12
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	92		23-120
2-Fluorobiphenyl	85		30-120
4-Terphenyl-d14	100		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-18
Client ID: PB-884-23-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 13:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 20:21
Analyst: SLR
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	87		30-120
4-Terphenyl-d14	101		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-19
Client ID: DUP-44
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 00:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 20:44
Analyst: SLR
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	2.7		mg/kg	0.17	0.021	1
Fluorene	0.39		mg/kg	0.17	0.017	1
Phenanthrene	0.99		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	0.085	J	mg/kg	0.10	0.017	1
Benzo(a)anthracene	0.027	J	mg/kg	0.10	0.020	1
Chrysene	0.15		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	0.029	J	mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	0.027	J	mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	88		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-20
Client ID: FB-071422-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 13:05
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/17/22 18:09
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/15/22 15:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	37		23-120
2-Fluorobiphenyl	39		15-120
4-Terphenyl-d14	42		41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-21
Client ID: FB-071422-4
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 13:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/17/22 18:24
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/15/22 15:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	37		23-120
2-Fluorobiphenyl	39		15-120
4-Terphenyl-d14	43		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/20/22 16:29
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/15/22 15:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 20-21 Batch: WG1663477-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	0.03	J	ug/l	0.10	0.02
Benzo(a)anthracene	0.05	J	ug/l	0.05	0.02
Chrysene	0.04	J	ug/l	0.10	0.01
Benzo(b)fluoranthene	0.07		ug/l	0.05	0.01
Benzo(a)pyrene	0.04	J	ug/l	0.10	0.02
Benzo(ghi)perylene	0.05	J	ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	33		23-120
2-Fluorobiphenyl	34		15-120
4-Terphenyl-d14	**32**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/18/22 13:32
Analyst: SLR

Extraction Method: EPA 3546
Extraction Date: 07/15/22 17:53

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-11,13-16,18-19 Batch: WG1663526-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.027
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	88		30-120
4-Terphenyl-d14	103		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/16/22 14:36
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 12,17 Batch: WG1663537-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.027
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	95		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 20-21 Batch: WG1663477-2 WG1663477-3								
Naphthalene	69		78		40-140	12		40
Fluorene	70		83		40-140	17		40
Phenanthrene	68		81		40-140	17		40
Anthracene	68		82		40-140	19		40
Pyrene	74		96		26-127	26		40
Benzo(a)anthracene	66		90		40-140	31		40
Chrysene	71		101		40-140	35		40
Benzo(b)fluoranthene	68		90		40-140	28		40
Benzo(a)pyrene	67		90		40-140	29		40
Benzo(ghi)perylene	76		99		40-140	26		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	38		42		23-120
2-Fluorobiphenyl	39		43		15-120
4-Terphenyl-d14	**40**	Q	46		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237705

Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-11,13-16,18-19 Batch: WG1663526-2 WG1663526-3								
Naphthalene	74		80		40-140	8		50
Fluorene	83		84		40-140	1		50
Phenanthrene	76		79		40-140	4		50
Anthracene	81		83		40-140	2		50
Pyrene	79		82		35-142	4		50
Benzo(a)anthracene	84		87		40-140	4		50
Chrysene	80		84		40-140	5		50
Benzo(b)fluoranthene	94		96		40-140	2		50
Benzo(a)pyrene	94		100		40-140	6		50
Benzo(ghi)perylene	85		86		40-140	1		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	78		84		23-120
2-Fluorobiphenyl	83		84		30-120
4-Terphenyl-d14	93		94		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237705

Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 12,17 Batch: WG1663537-2 WG1663537-3								
Naphthalene	70		70		40-140	0		50
Fluorene	76		73		40-140	4		50
Phenanthrene	75		73		40-140	3		50
Anthracene	78		75		40-140	4		50
Pyrene	79		75		35-142	5		50
Benzo(a)anthracene	82		80		40-140	2		50
Chrysene	81		79		40-140	3		50
Benzo(b)fluoranthene	87		84		40-140	4		50
Benzo(a)pyrene	91		87		40-140	4		50
Benzo(ghi)perylene	81		78		40-140	4		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	78		82		23-120
2-Fluorobiphenyl	76		74		30-120
4-Terphenyl-d14	88		82		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-01
Client ID: PB-826-11-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 08:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.61	J	mg/kg	4.12	0.220	2	07/15/22 12:45	07/19/22 00:18	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-02
Client ID: PB-826-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 08:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.00	J	mg/kg	4.04	0.216	2	07/15/22 12:45	07/19/22 00:23	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-03
Client ID: PB-826-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 08:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	4.29		mg/kg	4.12	0.221	2	07/15/22 12:45	07/19/22 22:07	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-04
Client ID: PB-826-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	8.32		mg/kg	2.23	0.120	1	07/15/22 12:45	07/18/22 23:46	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-05
Client ID: PB-826-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	162		mg/kg	2.20	0.118	1	07/15/22 12:45	07/18/22 23:50	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-06
Client ID: PB-826-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.77		mg/kg	2.22	0.119	1	07/15/22 12:45	07/18/22 23:55	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-07
Client ID: PB-884-08-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 10:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	60.2		mg/kg	4.36	0.234	2	07/15/22 12:45	07/19/22 22:13	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-08
Client ID: PB-884-09-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 10:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.95	J	mg/kg	1.99	0.107	1	07/15/22 12:45	07/19/22 00:04	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-09
Client ID: PB-884-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 10:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.20		mg/kg	2.13	0.114	1	07/15/22 12:45	07/19/22 00:09	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-10
Client ID: PB-884-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.63		mg/kg	1.99	0.106	1	07/15/22 12:45	07/19/22 00:14	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-11
Client ID: PB-884-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.68	J	mg/kg	2.02	0.108	1	07/15/22 12:45	07/19/22 00:46	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-12
Client ID: PB-884-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.86	J	mg/kg	2.00	0.108	1	07/15/22 12:45	07/19/22 00:51	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-13
Client ID: PB-884-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.99	J	mg/kg	2.01	0.108	1	07/15/22 12:45	07/19/22 00:56	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-14
Client ID: PB-884-18-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 12:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.17		mg/kg	4.64	0.248	2	07/15/22 12:45	07/19/22 22:18	EPA 3050B	1,6010D	BV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-15
Client ID: PB-884-19-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 12:15
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.61	J	mg/kg	2.08	0.112	1	07/15/22 20:44	07/20/22 07:04	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-16
Client ID: PB-884-20-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 12:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.04	J	mg/kg	2.06	0.110	1	07/15/22 20:44	07/20/22 10:01	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-17
Client ID: PB-884-21-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 12:45
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.98	J	mg/kg	2.05	0.110	1	07/15/22 20:44	07/20/22 10:05	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-18
Client ID: PB-884-23-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 13:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.61	J	mg/kg	2.08	0.112	1	07/15/22 20:44	07/20/22 10:10	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-19
Client ID: DUP-44
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 00:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.70	J	mg/kg	2.11	0.113	1	07/15/22 20:44	07/20/22 10:15	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237705
Project Number: 200.00135.006
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-20
Client ID: FB-071422-3
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 13:05
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/15/22 14:25	07/18/22 20:19	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-21
Client ID: FB-071422-4
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Water

Date Collected: 07/14/22 13:10
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/15/22 14:25	07/18/22 21:07	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-14 Batch: WG1663337-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/15/22 12:45	07/18/22 20:58	1,6010D	BV

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 15-19 Batch: WG1663364-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/15/22 20:44	07/20/22 06:41	1,6010D	SB

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 20-21 Batch: WG1663390-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/15/22 14:25	07/18/22 18:50	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237705

Report Date: 07/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-14 Batch: WG1663337-2 SRM Lot Number: D113-540								
Lead, Total	89		-		72-128	-		
Total Metals - Mansfield Lab Associated sample(s): 15-19 Batch: WG1663364-2 SRM Lot Number: D113-540								
Lead, Total	93		-		72-128	-		
Total Metals - Mansfield Lab Associated sample(s): 20-21 Batch: WG1663390-2								
Lead, Total	102		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-14 QC Batch ID: WG1663337-3 QC Sample: L2237664-01 Client ID: MS Sample												
Lead, Total	158	43	113	**0**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 15-19 QC Batch ID: WG1663364-3 QC Sample: L2237705-15 Client ID: PB-884-19-SS01												
Lead, Total	1.61J	44.2	25.7	**58**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 20-21 QC Batch ID: WG1663390-3 WG1663390-4 QC Sample: L2237672-03 Client ID: MS Sample												
Lead, Total	0.9553J	530	569.8	108		561.0	106		75-125	2		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-14 QC Batch ID: WG1663337-4 QC Sample: L2237664-01 Client ID: DUP Sample						
Lead, Total	158	81.4	mg/kg	**64**	Q	20
Total Metals - Mansfield Lab Associated sample(s): 15-19 QC Batch ID: WG1663364-4 QC Sample: L2237705-15 Client ID: PB-884-19-SS01						
Lead, Total	1.61J	1.98J	mg/kg	NC		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Serial Dilution Analysis
Batch Quality Control

Lab Number: L2237705
Report Date: 07/21/22

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-14 QC Batch ID: WG1663337-6 QC Sample: L2237664-01 Client ID: DUP Sample						
Lead, Total	158	207	mg/kg	**31**	Q	20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-01
Client ID: PB-826-11-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 08:15
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.6		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-02
Client ID: PB-826-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 08:30
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.5		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-03
Client ID: PB-826-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 08:45
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.1		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-04
Client ID: PB-826-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 09:00
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.6		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-05
Client ID: PB-826-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 09:15
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.9		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-06
Client ID: PB-826-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 09:30
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.7		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-07
Client ID: PB-884-08-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 10:15
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.4		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-08
Client ID: PB-884-09-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 10:30
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.7		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-09
Client ID: PB-884-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 10:45
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.6		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-10
Client ID: PB-884-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 11:00
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.7		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-11
Client ID: PB-884-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 11:15
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.0		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-12
Client ID: PB-884-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 11:30
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.5		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-13
Client ID: PB-884-17-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 11:45
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.6		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-14
Client ID: PB-884-18-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 12:00
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.2		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-15
Client ID: PB-884-19-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 12:15
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.7		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-16
Client ID: PB-884-20-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 12:30
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.5		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-17
Client ID: PB-884-21-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 12:45
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.1		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-18
Client ID: PB-884-23-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 13:00
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.4		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237705
Report Date: 07/21/22

SAMPLE RESULTS

Lab ID: L2237705-19
Client ID: DUP-44
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 00:00
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.7		%	0.100	NA	1	-	07/15/22 13:06	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237705

Report Date: 07/21/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-19 QC Batch ID: WG1663375-1 QC Sample: L2237705-01 Client ID: PB-826-11-SS01						
Solids, Total	92.6	93.4	%	1		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent
D	Absent
E	Absent
F	Absent
G	Absent
H	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237705-01A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237705-01B	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-01C	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-01D	Plastic 120ml unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2237705-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237705-01F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237705-02A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237705-02B	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-02C	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-02D	Plastic 120ml unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2237705-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237705-02F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237705-03A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237705-03B	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-03C	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237705-03D	Plastic 120ml unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2237705-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237705-03F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237705-04A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237705-04B	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-04C	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-04D	Plastic 120ml unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2237705-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237705-04F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237705-05A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237705-05B	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-05C	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-05D	Plastic 120ml unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2237705-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237705-05F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237705-06A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237705-06B	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-06C	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-06D	Plastic 120ml unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2237705-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237705-06F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237705-07A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2237705-07B	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260H(14),PA-8260HLW(14)
L2237705-07C	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260H(14),PA-8260HLW(14)
L2237705-07D	Plastic 120ml unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2237705-07E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237705-07F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237705-08A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237705-08B	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-08C	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-08D	Plastic 120ml unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2237705-08E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237705-08F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237705-09A	Vial MeOH preserved	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237705-09B	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-09C	Vial water preserved	A	NA		4.0	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-09D	Plastic 120ml unpreserved	A	NA		4.0	Y	Absent		TS(7)
L2237705-09E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.0	Y	Absent		PB-TI(180)
L2237705-09F	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		PA-PAH(14)
L2237705-10A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-10B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-10C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-10D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-10E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)
L2237705-10F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-11A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-11B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-11C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-11D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-11E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)
L2237705-11F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-12A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-12B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-12C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-12D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-12E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237705-12F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-13A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-13B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-13C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-13D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-13E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)
L2237705-13F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-14A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-14B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-14C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-14D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-14E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)
L2237705-14F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-15A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-15B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-15C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-15D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-15E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)
L2237705-15F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-16A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-16B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-16C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-16D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-16E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)
L2237705-16F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-17A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-17B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-17C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237705-17D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-17E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)
L2237705-17F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-18A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-18B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-18C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-18D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-18E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)
L2237705-18F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-19A	Vial MeOH preserved	E	NA		3.7	Y	Absent		PA-8260HLW(14)
L2237705-19B	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-19C	Vial water preserved	E	NA		3.7	Y	Absent	15-JUL-22 09:06	PA-8260HLW(14)
L2237705-19D	Plastic 120ml unpreserved	E	NA		3.7	Y	Absent		TS(7)
L2237705-19E	Metals Only-Glass 60mL/2oz unpreserved	E	NA		3.7	Y	Absent		PB-TI(180)
L2237705-19F	Glass 120ml/4oz unpreserved	E	NA		3.7	Y	Absent		PA-PAH(14)
L2237705-20A	Vial HCl preserved	E	NA		3.7	Y	Absent		PA-8260(14)
L2237705-20B	Vial HCl preserved	E	NA		3.7	Y	Absent		PA-8260(14)
L2237705-20C	Vial HCl preserved	E	NA		3.7	Y	Absent		PA-8260(14)
L2237705-20D	Vial HCl preserved	E	NA		3.7	Y	Absent		8011(14)
L2237705-20E	Vial HCl preserved	E	NA		3.7	Y	Absent		8011(14)
L2237705-20F	Plastic 250ml HNO3 preserved	E	<2	<2	3.7	Y	Absent		PB-6020T-PPB(180)
L2237705-20G	Amber 250ml unpreserved	E	7	7	3.7	Y	Absent		PA-PAHSIM-LVI(7)
L2237705-20H	Amber 250ml unpreserved	E	7	7	3.7	Y	Absent		PA-PAHSIM-LVI(7)
L2237705-21A	Vial HCl preserved	E	NA		3.7	Y	Absent		PA-8260(14)
L2237705-21B	Vial HCl preserved	E	NA		3.7	Y	Absent		PA-8260(14)
L2237705-21C	Vial HCl preserved	E	NA		3.7	Y	Absent		PA-8260(14)
L2237705-21D	Vial HCl preserved	E	NA		3.7	Y	Absent		8011(14)
L2237705-21E	Vial HCl preserved	E	NA		3.7	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237705
Report Date: 07/21/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237705-21F	Plastic 250ml HNO3 preserved	E	<2	<2	3.7	Y	Absent		PB-6020T-PPB(180)
L2237705-21G	Amber 250ml unpreserved	E	7	7	3.7	Y	Absent		PA-PAHSIM-LVI(7)
L2237705-21H	Amber 250ml unpreserved	E	7	7	3.7	Y	Absent		PA-PAHSIM-LVI(7)
L2237705-22A	Vial HCl preserved	E	NA		3.7	Y	Absent		PA-8260(14)
L2237705-22B	Vial HCl preserved	E	NA		3.7	Y	Absent		8011(14)

Container Comments

L2237705-19B HEADSPACE

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237705
Project Number:	200.00135.006	**Report Date:**	07/21/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237705
Project Number:	200.00135.006	**Report Date:**	07/21/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237705
Project Number:	200.00135.006	**Report Date:**	07/21/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237705
Project Number:	200.00135.006	**Report Date:**	07/21/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 3

Date Rec'd in Lab: 7/15/22

ALPHA Job #: L2237705

ALPHA ANALYTICAL

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client Info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SHORTLIST 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
37705-01	PB-826-11-5501	7/14	0815	S	TS	
02	PB-826-12-5501		0830			
03	PB-826-13-5501		0845			
04	PB-826-14-5501		0900			
05	PB-826-15-5501		0915			
06	PB-826-16-5501		0930			
07	PB-884-08-5501		1015			
08	PB-884-09-5501		1030			
09	PB-884-13-5501		1045			
10	PB-884-14-5501		1100			

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
	7/14		
	7/14/22 1801		
	7/14/22 2150		

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(I-93)
(rev. 5-JAN-22)

CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA ANALYTICAL
Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/15/22

ALPHA Job #: L2237705

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SHORTLIST 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
37705-11	PB-884-15-5501	7/14	1115	S	TS	
12	PB-884-16-5501		1130			
13	PB-884-17-5501		1145			
14	PB-884-18-5501		1200			
15	PB-884-19-5501		1215			
16	PB-884-20-5501		1230			
17	PB-884-21-5501		1245			
18	PB-884-23-5501		1300			
19	DUP-44		-			
20	FB-071422-3		1305	W		

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/14		7/14/22 1550
	7/14/22 2100		7/14/22 2100
	7/14/22		7/14/22

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(H) (rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 3 OF 3

Date Rec'd in Lab: 7/15/22

ALPHA Job #: L2237705

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information

☐ FAX ☒ ADEx

Data Deliverables

☒ EMAIL ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Shortlist 1-5	VOC Petroleum 5L 1-5	EDB (8011)	Sample Specific Comments
37705-21	FB-071422-4	7/14	1310	W	TS	☑	☐	☐	
22	TB-071422		-	W	TS	☐	☑	☑	
						☐	☐	☐	
						☐	☐	☐	
						☐	☐	☐	
						☐	☐	☐	
						☐	☐	☐	
						☐	☐	☐	
						☐	☐	☐	
						☐	☐	☐	
						☐	☐	☐	

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
	7/14		
	7/14/22 1600		7/14/22 1550
	7/14 2100		7/14/22 2100
GL ARL - 71422	7/14/22	GL ARL 71422	7/14/22 2350

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(T)-(M)
(rev. 5-JAN-12)

PADEP Short List Analytical Suites per Table III-5:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

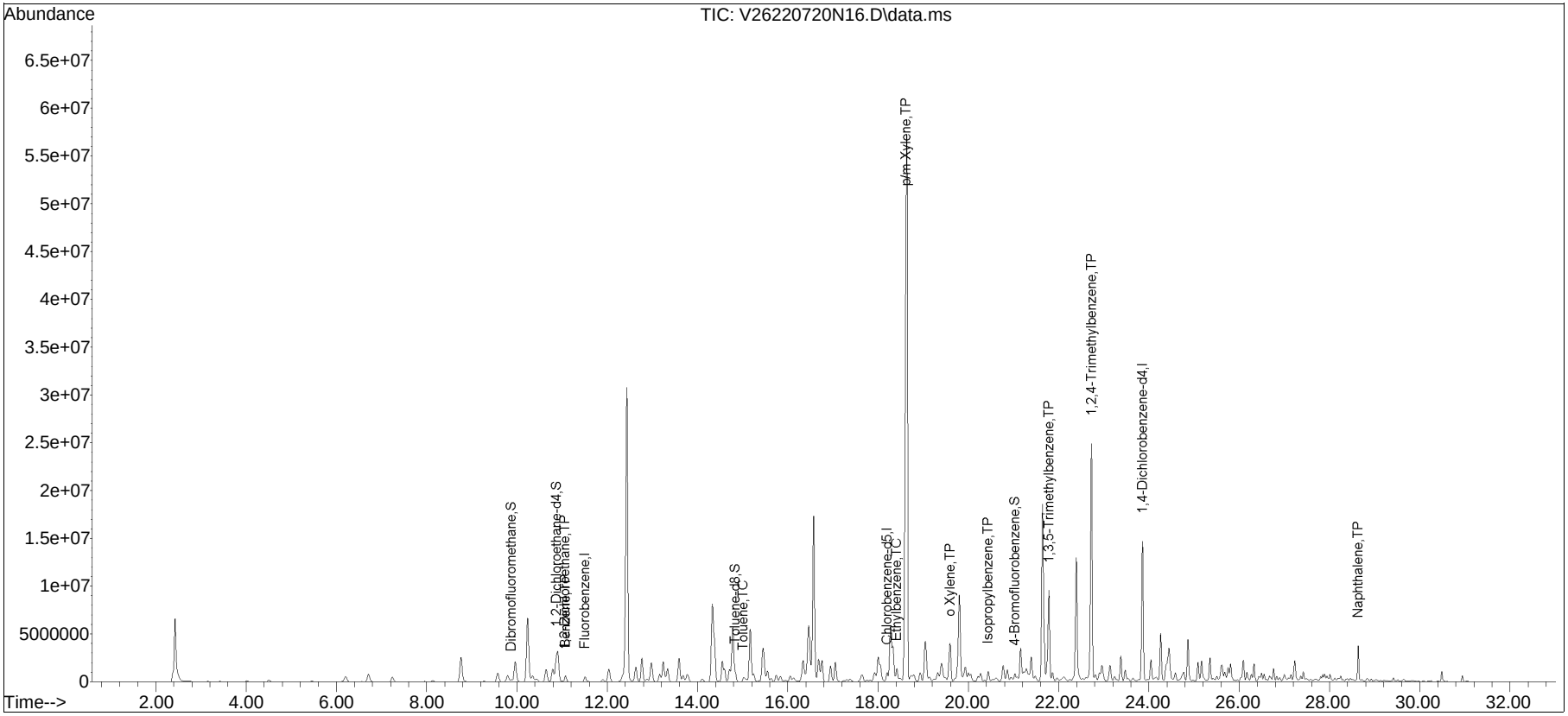
5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA126\2022\220720N\
Data File : V26220720N16.D
Acq On : 21 Jul 2022 06:20 am
Operator : VOA126:JC
Sample : l2237705-07,31,7.23,5,,c,r2f
Misc : WG1665590,ICAL19172
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 21 07:18:20 2022
Quant Method : I:\VOLATILES\VOA126\2022\220720N\V126_220713P_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Jul 14 06:55:13 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list20N\V26220720N01.D•

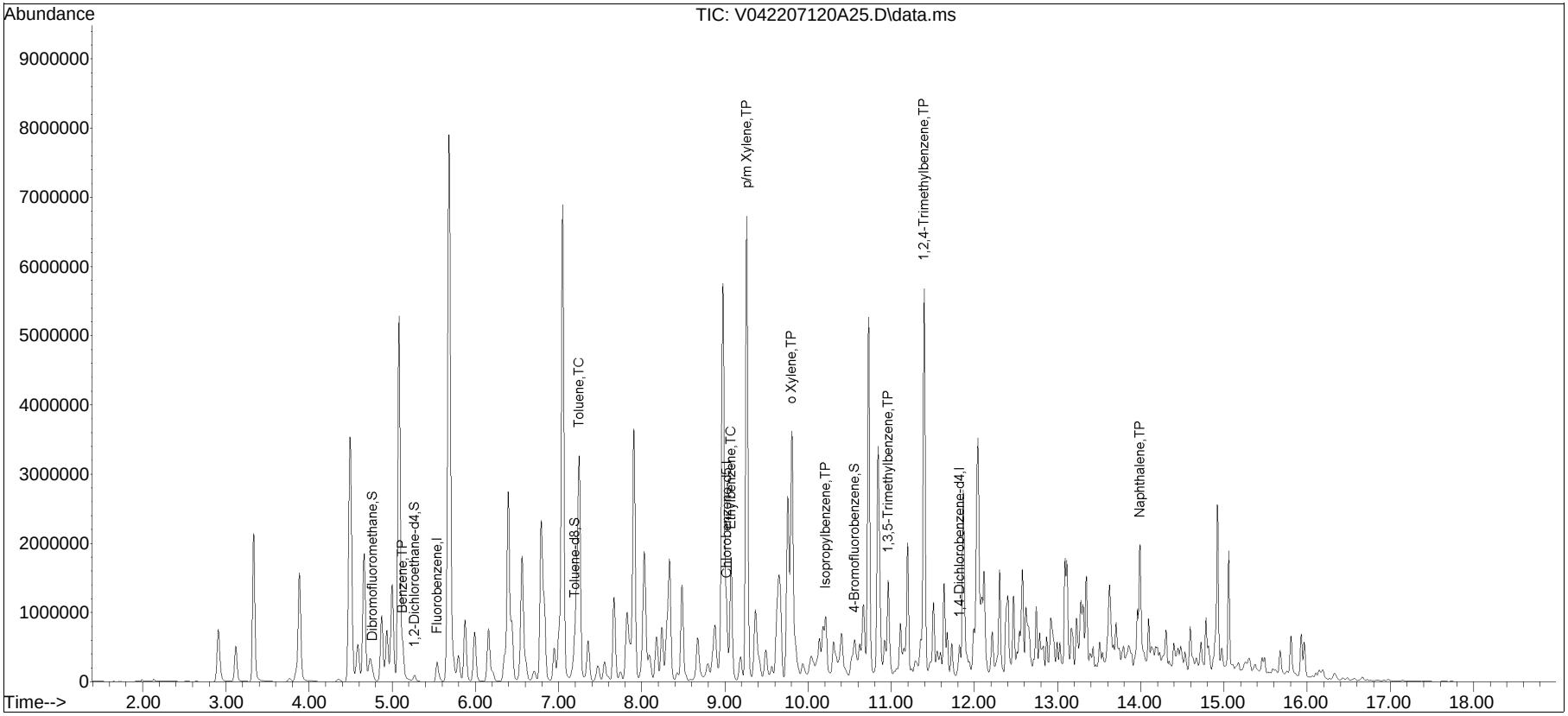


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA104\2022\2207120A\
Data File : V042207120A25.D
Acq On : 20 Jul 2022 5:38 pm
Operator : VOA104:JC
Sample : L2237705-08,31H,3.97,5,0.100,,A,R2F
Misc : WG1665578,ICAL19119
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jul 21 06:57:12 2022
Quant Method : I:\VOLATILES\VOA104\2022\2207120A\V104_220621A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 22 06:56:43 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list120A\V042207120A01.D•

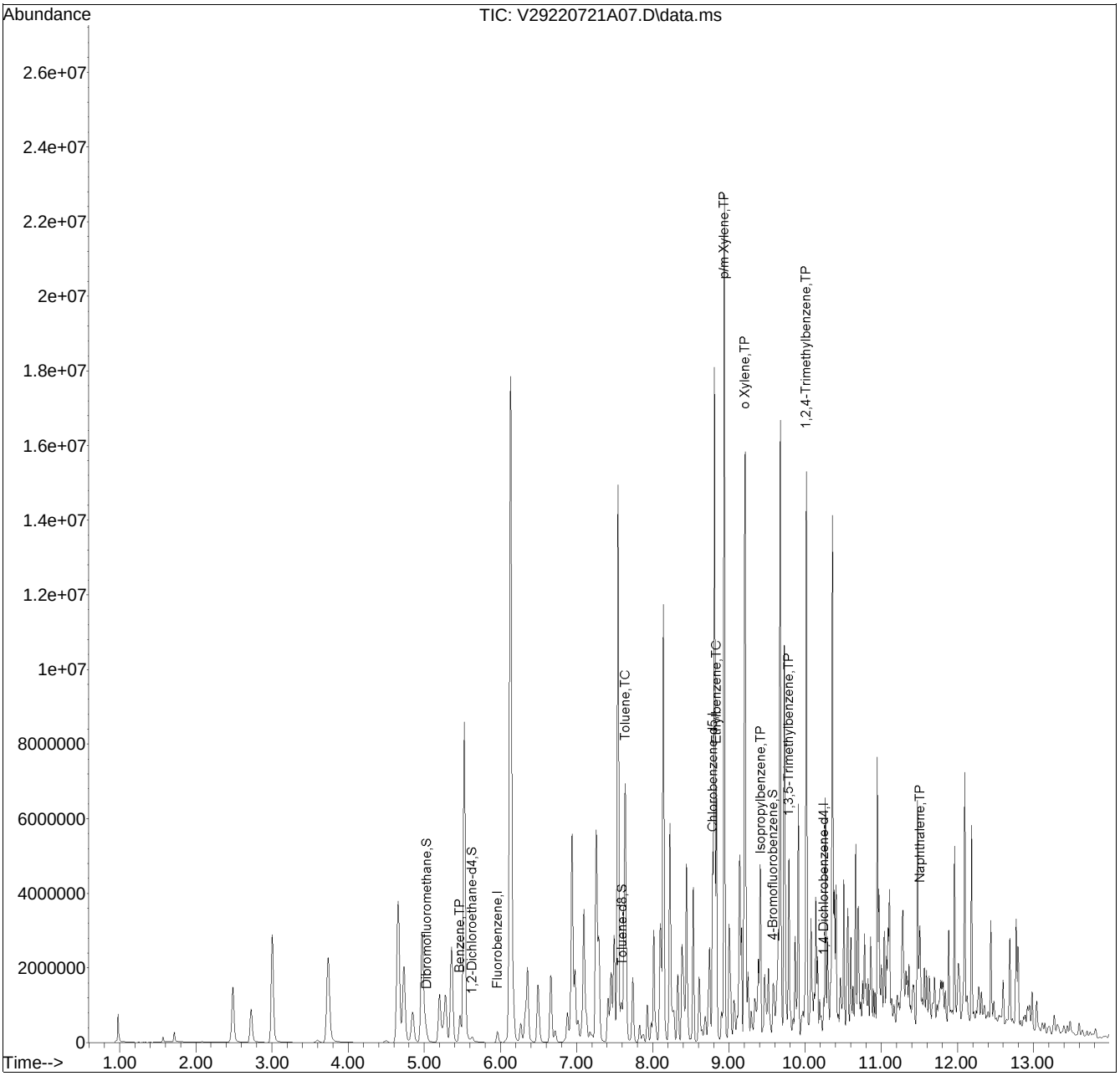


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA129\2022\220721A\
Data File : V29220721A07.D
Acq On : 21 Jul 2022 09:34 am
Operator : VOA129:MKS
Sample : L2237705-11,31H,4.67,5,0.100,,A,R2F
Misc : WG1665734,ICAL19173
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 21 11:01:20 2022
Quant Method : I:\VOLATILES\VOA129\2022\220721A\V129_220712N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Jul 14 08:00:36 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list21A\V29220721A01.D•

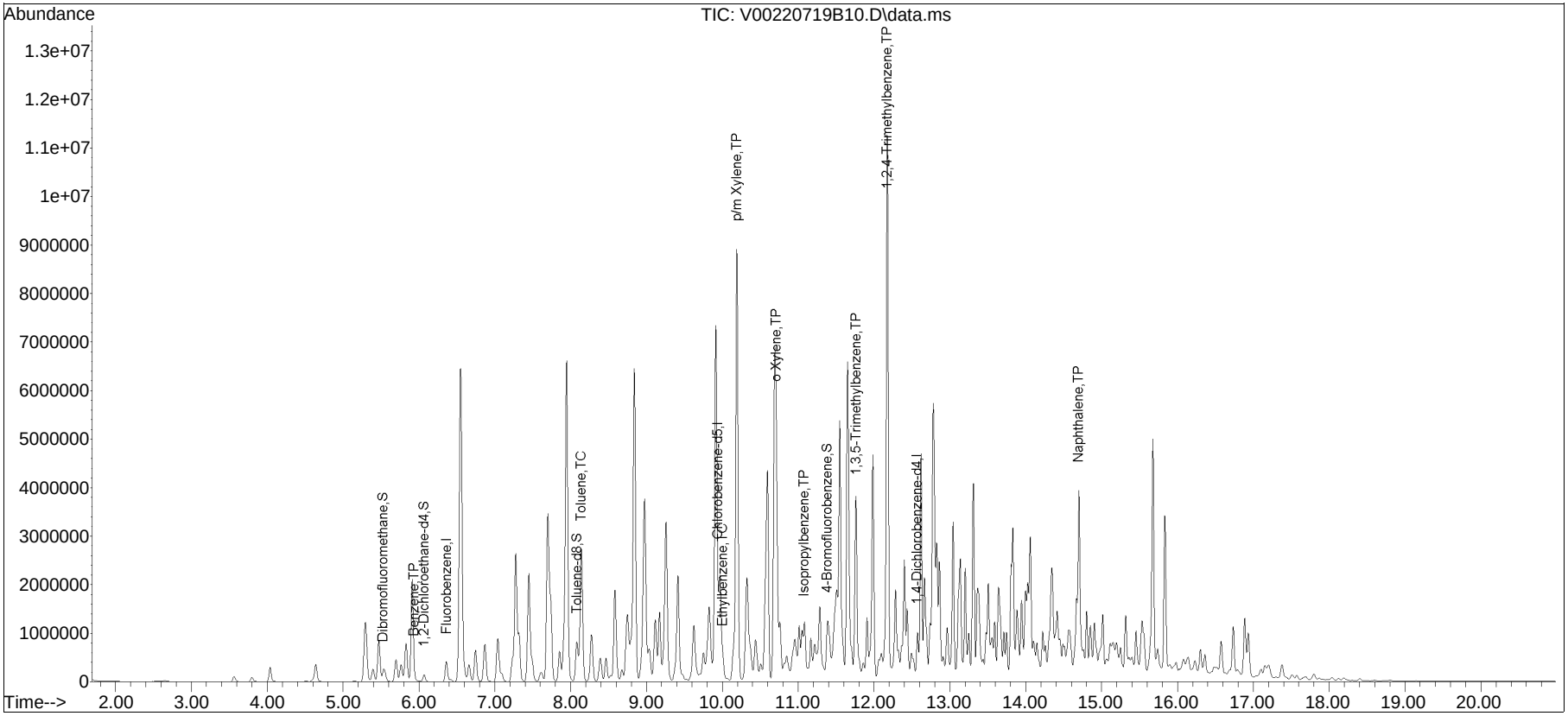


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA100\2022\220719B\
Data File : V00220719B10.D
Acq On : 19 Jul 2022 5:58 pm
Operator : VOA100:JC
Sample : l2237705-19,31h,4.02,5,0.100,,a,r2f
Misc : WG1665199,ICAL19178
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 20 06:13:57 2022
Quant Method : I:\VOLATILES\VOA100\2022\220719B\V100_220714N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Jul 15 08:34:11 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list19B\V00220719B01.D•



ANALYTICAL REPORT

Lab Number:	L2237706
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/22/22

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Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237706
Report Date: 07/22/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2237706-01	PB-883-01-SS01	SOIL	PHILADELPHIA, PA	07/14/22 09:00	07/14/22
L2237706-02	PB-883-02-SS01	SOIL	PHILADELPHIA, PA	07/14/22 09:10	07/14/22
L2237706-03	PB-883-03-SS01	SOIL	PHILADELPHIA, PA	07/14/22 09:20	07/14/22
L2237706-04	PB-883-04-SS01	SOIL	PHILADELPHIA, PA	07/14/22 09:30	07/14/22
L2237706-05	PB-883-05-SS01	SOIL	PHILADELPHIA, PA	07/14/22 09:40	07/14/22
L2237706-06	PB-883-06-SS01	SOIL	PHILADELPHIA, PA	07/14/22 09:50	07/14/22
L2237706-07	PB-883-07-SS01	SOIL	PHILADELPHIA, PA	07/14/22 10:00	07/14/22
L2237706-08	PB-883-15-SS01	SOIL	PHILADELPHIA, PA	07/14/22 10:10	07/14/22
L2237706-09	PB-883-20-SS01	SOIL	PHILADELPHIA, PA	07/14/22 10:20	07/14/22
L2237706-10	PB-883-21-SS01	SOIL	PHILADELPHIA, PA	07/14/22 10:30	07/14/22
L2237706-11	PB-885-04-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:00	07/14/22
L2237706-12	PB-885-05-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:10	07/14/22
L2237706-13	PB-885-12-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:20	07/14/22
L2237706-14	PB-885-13-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:30	07/14/22
L2237706-15	PB-885-14-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:40	07/14/22
L2237706-16	PB-885-15-SS01	SOIL	PHILADELPHIA, PA	07/14/22 11:50	07/14/22
L2237706-17	PB-885-20-SS01	SOIL	PHILADELPHIA, PA	07/14/22 12:00	07/14/22
L2237706-18	PB-885-25-SS01	SOIL	PHILADELPHIA, PA	07/14/22 12:10	07/14/22
L2237706-19	FB-071422-1	WATER	PHILADELPHIA, PA	07/14/22 14:00	07/14/22
L2237706-20	FB-071422-2	WATER	PHILADELPHIA, PA	07/14/22 14:10	07/14/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237706
Project Number:	200.00135.006	**Report Date:**	07/22/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237706
Project Number:	200.00135.006	**Report Date:**	07/22/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Semivolatile Organics by SIM

The WG1663477-1 Method Blank, associated with L2237706-19 and -20, has a concentration above the reporting limit for Benzo(b)fluoranthene. Since the associated sample concentrations are either greater than 10x the blank concentration or non-detect to the RL for this target analyte, no corrective action is required. Any results detected below the reporting limit are qualified with a "B".

Total Metals

L2237706-01: The sample has an elevated detection limit due to the dilution required by matrix interferences encountered during analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 07/22/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-01
Client ID: PB-883-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 22:09
Analyst: JC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00032	J	mg/kg	0.0021	0.00021	1
Benzene	0.00026	J	mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00057	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00031	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00059	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.00018	J	mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-02
Client ID: PB-883-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 17:05
Analyst: JC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0018	J	mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00051	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00056	1
1,2-Dibromoethane	ND		mg/kg	0.00051	0.00030	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-03
Client ID: PB-883-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:20
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 23:03
Analyst: JC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0020		mg/kg	0.0016	0.00016	1
Benzene	0.00041		mg/kg	0.00041	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00082	0.00021	1
Toluene	ND		mg/kg	0.00082	0.00045	1
1,2-Dibromoethane	ND		mg/kg	0.00041	0.00024	1
Ethylbenzene	ND		mg/kg	0.00082	0.00012	1
p/m-Xylene	ND		mg/kg	0.0016	0.00046	1
o-Xylene	ND		mg/kg	0.00082	0.00024	1
Xylenes, Total	ND		mg/kg	0.00082	0.00024	1
Isopropylbenzene	ND		mg/kg	0.00082	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0016	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0016	0.00028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-04
Client ID: PB-883-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 23:30
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00098	0.00025	1
Toluene	ND		mg/kg	0.00098	0.00053	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00098	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00098	0.00028	1
Xylenes, Total	ND		mg/kg	0.00098	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00098	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-05
Client ID: PB-883-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:40
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/18/22 23:57
Analyst: JC
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0042		mg/kg	0.0018	0.00018	1
Benzene	0.00030	J	mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00091	0.00023	1
Toluene	ND		mg/kg	0.00091	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00091	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00091	0.00026	1
Xylenes, Total	ND		mg/kg	0.00091	0.00026	1
Isopropylbenzene	0.00020	J	mg/kg	0.00091	0.00009	1
1,3,5-Trimethylbenzene	0.00084	J	mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	0.00034	J	mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	76		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-06
Client ID: PB-883-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:50
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 00:23
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00048	J	mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00053	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00053	0.00031	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00059	1
o-Xylene	ND		mg/kg	0.0010	0.00031	1
Xylenes, Total	ND		mg/kg	0.0010	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	125		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-07
Client ID: PB-883-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 00:49
Analyst: JC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0016	J	mg/kg	0.0023	0.00023	1
Benzene	0.00026	J	mg/kg	0.00056	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00029	1
Toluene	ND		mg/kg	0.0011	0.00061	1
1,2-Dibromoethane	ND		mg/kg	0.00056	0.00033	1
Ethylbenzene	ND		mg/kg	0.0011	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00063	1
o-Xylene	ND		mg/kg	0.0011	0.00033	1
Xylenes, Total	ND		mg/kg	0.0011	0.00033	1
Isopropylbenzene	0.00021	J	mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.00025	J	mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	0.00041	J	mg/kg	0.0023	0.00038	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-08
Client ID: PB-883-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 01:15
Analyst: JC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0018	J	mg/kg	0.0019	0.00019	1
Benzene	0.00025	J	mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00095	0.00024	1
Toluene	ND		mg/kg	0.00095	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00095	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00053	1
o-Xylene	0.00030	J	mg/kg	0.00095	0.00028	1
Xylenes, Total	0.00030	J	mg/kg	0.00095	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00095	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-09
Client ID: PB-883-20-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 10:20
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 01:42
Analyst: JC
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.0051		mg/kg	0.0019	0.00019	1
Benzene	0.00045	J	mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00097	0.00025	1
Toluene	ND		mg/kg	0.00097	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00097	0.00014	1
p/m-Xylene	ND		mg/kg	0.0019	0.00054	1
o-Xylene	ND		mg/kg	0.00097	0.00028	1
Xylenes, Total	ND		mg/kg	0.00097	0.00028	1
Isopropylbenzene	0.00029	J	mg/kg	0.00097	0.00010	1
1,3,5-Trimethylbenzene	0.00048	J	mg/kg	0.0019	0.00019	1
1,2,4-Trimethylbenzene	0.00089	J	mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	81		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-10
Client ID: PB-883-21-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 02:09
Analyst: JC
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00091	0.00024	1
Toluene	ND		mg/kg	0.00091	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	0.00034	J	mg/kg	0.00091	0.00013	1
p/m-Xylene	0.0010	J	mg/kg	0.0018	0.00051	1
o-Xylene	0.0013		mg/kg	0.00091	0.00027	1
Xylenes, Total	0.0023	J	mg/kg	0.00091	0.00027	1
Isopropylbenzene	0.00042	J	mg/kg	0.00091	0.00010	1
1,3,5-Trimethylbenzene	0.0032		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	0.0097		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	105		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-11
Client ID: PB-885-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 02:35
Analyst: JC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00091	0.00023	1
Toluene	ND		mg/kg	0.00091	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00091	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00091	0.00026	1
Xylenes, Total	ND		mg/kg	0.00091	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00091	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-12
Client ID: PB-885-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 03:02
Analyst: JC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00047	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00095	0.00024	1
Toluene	ND		mg/kg	0.00095	0.00051	1
1,2-Dibromoethane	ND		mg/kg	0.00047	0.00028	1
Ethylbenzene	ND		mg/kg	0.00095	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00053	1
o-Xylene	ND		mg/kg	0.00095	0.00028	1
Xylenes, Total	ND		mg/kg	0.00095	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00095	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	106		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-13
Client ID: PB-885-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:20
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 03:29
Analyst: JC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00087	0.00022	1
Toluene	ND		mg/kg	0.00087	0.00047	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	ND		mg/kg	0.00087	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00048	1
o-Xylene	ND		mg/kg	0.00087	0.00025	1
Xylenes, Total	ND		mg/kg	0.00087	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00087	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	107		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-14
Client ID: PB-885-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 03:56
Analyst: JC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	ND		mg/kg	0.00048	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00095	0.00024	1
Toluene	ND		mg/kg	0.00095	0.00052	1
1,2-Dibromoethane	ND		mg/kg	0.00048	0.00028	1
Ethylbenzene	ND		mg/kg	0.00095	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00053	1
o-Xylene	ND		mg/kg	0.00095	0.00028	1
Xylenes, Total	ND		mg/kg	0.00095	0.00028	1
Isopropylbenzene	ND		mg/kg	0.00095	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00032	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	75		70-130
Dibromofluoromethane	107		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-15
Client ID: PB-885-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:40
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 17:31
Analyst: JC
Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00042	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00084	0.00022	1
Toluene	ND		mg/kg	0.00084	0.00046	1
1,2-Dibromoethane	ND		mg/kg	0.00042	0.00025	1
Ethylbenzene	ND		mg/kg	0.00084	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00047	1
o-Xylene	ND		mg/kg	0.00084	0.00024	1
Xylenes, Total	ND		mg/kg	0.00084	0.00024	1
Isopropylbenzene	ND		mg/kg	0.00084	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	101		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-16
Client ID: PB-885-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:50
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 04:49
Analyst: JC
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	ND		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00090	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00051	1
o-Xylene	ND		mg/kg	0.00090	0.00026	1
Xylenes, Total	ND		mg/kg	0.00090	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	71		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-17
Client ID: PB-885-20-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 05:16
Analyst: JC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00049	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.00099	0.00025	1
Toluene	ND		mg/kg	0.00099	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00049	0.00029	1
Ethylbenzene	ND		mg/kg	0.00099	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00099	0.00029	1
Xylenes, Total	ND		mg/kg	0.00099	0.00029	1
Isopropylbenzene	ND		mg/kg	0.00099	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-18
Client ID: PB-885-25-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 05:43
Analyst: JC
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00042	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00085	0.00022	1
Toluene	ND		mg/kg	0.00085	0.00046	1
1,2-Dibromoethane	ND		mg/kg	0.00042	0.00025	1
Ethylbenzene	ND		mg/kg	0.00085	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00048	1
o-Xylene	ND		mg/kg	0.00085	0.00025	1
Xylenes, Total	ND		mg/kg	0.00085	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00085	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00028	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	77		70-130
Dibromofluoromethane	108		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-19
Client ID: FB-071422-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 14:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 18:23
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-19
Client ID: FB-071422-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 14:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/17/22 15:21
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**136**	Q	70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	117		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-20
Client ID: FB-071422-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 14:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/15/22 18:30
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-20
Client ID: FB-071422-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 14:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/17/22 15:43
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	129		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	120		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/15/22 16:10
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/15/22 15:04

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 19-20 Batch: WG1663450-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/17/22 13:55
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 19-20 Batch: WG1664113-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	127		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	117		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/18/22 21:42
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,03-14,16-18 Batch: WG1664672-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	104		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/19/22 16:38
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02,15 Batch: WG1665197-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	99		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237706

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 19-20 Batch: WG1663450-2								
1,2-Dibromoethane	97		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237706

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 19-20 Batch: WG1664113-3 WG1664113-4								
Methyl tert butyl ether	90		86		63-130	5		20
Benzene	86		82		70-130	5		20
1,2-Dichloroethane	100		96		70-130	4		20
Toluene	83		84		70-130	1		20
Ethylbenzene	90		91		70-130	1		20
p/m-Xylene	90		90		70-130	0		20
o-Xylene	90		90		70-130	0		20
Isopropylbenzene	86		87		70-130	1		20
1,3,5-Trimethylbenzene	90		92		64-130	2		20
1,2,4-Trimethylbenzene	89		88		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	117		116		70-130
Toluene-d8	98		97		70-130
4-Bromofluorobenzene	98		99		70-130
Dibromofluoromethane	109		111		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237706
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,03-14,16-18 Batch: WG1664672-3 WG1664672-4								
Methyl tert butyl ether	90		90		66-130	0		30
Benzene	90		90		70-130	0		30
1,2-Dichloroethane	90		90		70-130	0		30
Toluene	90		92		70-130	2		30
1,2-Dibromoethane	96		98		70-130	2		30
Ethylbenzene	89		90		70-130	1		30
p/m-Xylene	94		96		70-130	2		30
o-Xylene	93		94		70-130	1		30
Isopropylbenzene	72		87		70-130	19		30
1,3,5-Trimethylbenzene	85		87		70-130	2		30
1,2,4-Trimethylbenzene	83		86		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		100		70-130
Toluene-d8	98		102		70-130
4-Bromofluorobenzene	83		84		70-130
Dibromofluoromethane	106		105		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237706

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02,15 Batch: WG1665197-3 WG1665197-4								
Methyl tert butyl ether	81		84		66-130	4		30
Benzene	77		80		70-130	4		30
1,2-Dichloroethane	75		78		70-130	4		30
Toluene	71		73		70-130	3		30
1,2-Dibromoethane	79		82		70-130	4		30
Ethylbenzene	72		76		70-130	5		30
p/m-Xylene	73		76		70-130	4		30
o-Xylene	77		80		70-130	4		30
Isopropylbenzene	74		75		70-130	1		30
1,3,5-Trimethylbenzene	74		77		70-130	4		30
1,2,4-Trimethylbenzene	74		77		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		97		70-130
Toluene-d8	96		96		70-130
4-Bromofluorobenzene	98		97		70-130
Dibromofluoromethane	102		101		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-01
Client ID: PB-883-01-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 16:36
Analyst: EK
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	88		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-02
Client ID: PB-883-02-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 17:01
Analyst: EK
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.023	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	96		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-03
Client ID: PB-883-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:20
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 17:25
Analyst: EK
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	74		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-04
Client ID: PB-883-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/21/22 17:18
Analyst: JG
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/21/22 10:07

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	80		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-05
Client ID: PB-883-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:40
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 18:13
Analyst: EK
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.037	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	82		30-120
4-Terphenyl-d14	91		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-06
Client ID: PB-883-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 09:50
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 18:37
Analyst: EK
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	99		23-120
2-Fluorobiphenyl	95		30-120
4-Terphenyl-d14	96		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-07
Client ID: PB-883-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 19:01
Analyst: EK
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-08
Client ID: PB-883-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 19:25
Analyst: EK
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-09
Client ID: PB-883-20-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:20
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 19:49
Analyst: EK
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1
Fluorene	ND		mg/kg	0.20	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.039	1
Pyrene	ND		mg/kg	0.12	0.020	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.049	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	62		23-120
2-Fluorobiphenyl	63		30-120
4-Terphenyl-d14	69		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-10
Client ID: PB-883-21-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 10:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 20:13
Analyst: EK
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	3.0		mg/kg	0.18	0.022	1
Fluorene	1.2		mg/kg	0.18	0.018	1
Phenanthrene	3.7		mg/kg	0.11	0.022	1
Anthracene	0.74		mg/kg	0.11	0.036	1
Pyrene	0.23		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	81		30-120
4-Terphenyl-d14	94		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-11
Client ID: PB-885-04-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 20:37
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.016	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	89		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-12
Client ID: PB-885-05-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 21:01
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-13
Client ID: PB-885-12-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:20
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 21:25
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.016	1
Phenanthrene	ND		mg/kg	0.10	0.020	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.041	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	79		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-14
Client ID: PB-885-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 21:49
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	63		23-120
2-Fluorobiphenyl	56		30-120
4-Terphenyl-d14	67		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-15
Client ID: PB-885-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:40
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 22:13
Analyst: EK
Percent Solids: 97%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	63		30-120
4-Terphenyl-d14	75		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-16
Client ID: PB-885-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 11:50
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 22:37
Analyst: EK
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	88		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-17
Client ID: PB-885-20-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 23:01
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.016	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.033	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	92		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-18
Client ID: PB-885-25-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 12:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/16/22 23:25
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.17	0.021	1
Fluorene	ND		mg/kg	0.17	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.019	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.029	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.042	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	80		30-120
4-Terphenyl-d14	90		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-19
Client ID: FB-071422-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 14:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/17/22 18:40
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/15/22 15:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	41		23-120
2-Fluorobiphenyl	44		15-120
4-Terphenyl-d14	46		41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-20
Client ID: FB-071422-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/14/22 14:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/17/22 18:56
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/15/22 15:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	44		23-120
2-Fluorobiphenyl	46		15-120
4-Terphenyl-d14	47		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/20/22 16:29
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/15/22 15:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 19-20 Batch: WG1663477-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	0.03	J	ug/l	0.10	0.02
Benzo(a)anthracene	0.05	J	ug/l	0.05	0.02
Chrysene	0.04	J	ug/l	0.10	0.01
Benzo(b)fluoranthene	0.07		ug/l	0.05	0.01
Benzo(a)pyrene	0.04	J	ug/l	0.10	0.02
Benzo(ghi)perylene	0.05	J	ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	33		23-120
2-Fluorobiphenyl	34		15-120
4-Terphenyl-d14	**32**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/16/22 14:36
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 07/15/22 19:02

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,05-18 Batch: WG1663537-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.027
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	95		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/21/22 09:47
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 07/20/22 17:31

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 04 Batch: WG1665398-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.099	0.020
Anthracene	ND		mg/kg	0.099	0.032
Pyrene	ND		mg/kg	0.099	0.016
Benzo(a)anthracene	ND		mg/kg	0.099	0.018
Chrysene	ND		mg/kg	0.099	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.099	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	41		25-120
Phenol-d6	42		10-120
Nitrobenzene-d5	43		23-120
2-Fluorobiphenyl	42		30-120
2,4,6-Tribromophenol	43		10-136
4-Terphenyl-d14	43		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237706
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 19-20 Batch: WG1663477-2 WG1663477-3								
Naphthalene	69		78		40-140	12		40
Fluorene	70		83		40-140	17		40
Phenanthrene	68		81		40-140	17		40
Anthracene	68		82		40-140	19		40
Pyrene	74		96		26-127	26		40
Benzo(a)anthracene	66		90		40-140	31		40
Chrysene	71		101		40-140	35		40
Benzo(b)fluoranthene	68		90		40-140	28		40
Benzo(a)pyrene	67		90		40-140	29		40
Benzo(ghi)perylene	76		99		40-140	26		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	38		42		23-120
2-Fluorobiphenyl	39		43		15-120
4-Terphenyl-d14	**40**	Q	46		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237706

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05-18 Batch: WG1663537-2 WG1663537-3								
Naphthalene	70		70		40-140	0		50
Fluorene	76		73		40-140	4		50
Phenanthrene	75		73		40-140	3		50
Anthracene	78		75		40-140	4		50
Pyrene	79		75		35-142	5		50
Benzo(a)anthracene	82		80		40-140	2		50
Chrysene	81		79		40-140	3		50
Benzo(b)fluoranthene	87		84		40-140	4		50
Benzo(a)pyrene	91		87		40-140	4		50
Benzo(ghi)perylene	81		78		40-140	4		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	78		82		23-120
2-Fluorobiphenyl	76		74		30-120
4-Terphenyl-d14	88		82		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237706

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04 Batch: WG1665398-2 WG1665398-3								
Naphthalene	65		72		40-140	10		50
Fluorene	78		80		40-140	3		50
Phenanthrene	78		78		40-140	0		50
Anthracene	79		80		40-140	1		50
Pyrene	75		76		35-142	1		50
Benzo(a)anthracene	81		79		40-140	3		50
Chrysene	83		82		40-140	1		50
Benzo(b)fluoranthene	76		75		40-140	1		50
Benzo(a)pyrene	83		80		40-140	4		50
Benzo(ghi)perylene	72		74		40-140	3		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	32		36		25-120
Phenol-d6	35		39		10-120
Nitrobenzene-d5	35		38		23-120
2-Fluorobiphenyl	38		38		30-120
2,4,6-Tribromophenol	38		40		10-136
4-Terphenyl-d14	39		39		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-01
Client ID: PB-883-01-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.61	J	mg/kg	11.4	0.610	5	07/15/22 16:15	07/20/22 11:35	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-02
Client ID: PB-883-02-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.88		mg/kg	2.35	0.126	1	07/15/22 16:15	07/19/22 21:45	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-03
Client ID: PB-883-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:20
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.82		mg/kg	4.41	0.236	2	07/15/22 16:15	07/20/22 11:24	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-04
Client ID: PB-883-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.16		mg/kg	4.50	0.241	2	07/15/22 16:15	07/20/22 12:10	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-05
Client ID: PB-883-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:40
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.72		mg/kg	2.24	0.120	1	07/15/22 16:15	07/19/22 22:31	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-06
Client ID: PB-883-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 09:50
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.14		mg/kg	2.28	0.122	1	07/15/22 16:15	07/19/22 22:36	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-07
Client ID: PB-883-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 10:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	13.9		mg/kg	2.29	0.123	1	07/15/22 16:15	07/19/22 22:41	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-08
Client ID: PB-883-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 10:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	8.06		mg/kg	2.27	0.122	1	07/15/22 16:15	07/19/22 22:45	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-09
Client ID: PB-883-20-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 10:20
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.73		mg/kg	2.28	0.122	1	07/15/22 16:15	07/19/22 22:50	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-10
Client ID: PB-883-21-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 10:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	12.6		mg/kg	10.6	0.567	5	07/15/22 16:15	07/20/22 12:15	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-11
Client ID: PB-885-04-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.56	J	mg/kg	2.00	0.107	1	07/15/22 16:15	07/19/22 22:59	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-12
Client ID: PB-885-05-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.39	J	mg/kg	1.97	0.106	1	07/15/22 16:15	07/19/22 23:04	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-13
Client ID: PB-885-12-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:20
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.33	J	mg/kg	1.97	0.106	1	07/15/22 16:15	07/19/22 23:08	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-14
Client ID: PB-885-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:30
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.72	J	mg/kg	1.99	0.107	1	07/15/22 16:15	07/19/22 23:13	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-15
Client ID: PB-885-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:40
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.45	J	mg/kg	1.95	0.105	1	07/15/22 16:15	07/19/22 23:36	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-16
Client ID: PB-885-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 11:50
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.48	J	mg/kg	1.98	0.106	1	07/15/22 16:15	07/19/22 23:40	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-17
Client ID: PB-885-20-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 12:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.63	J	mg/kg	1.97	0.105	1	07/15/22 16:15	07/19/22 23:45	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-18
Client ID: PB-885-25-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 12:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.50	J	mg/kg	1.97	0.106	1	07/15/22 16:15	07/20/22 00:26	EPA 3050B	1,6010D	DL

Project Name: PHILADELPHIA REFINERY
Lab Number: L2237706
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-19
Client ID: FB-071422-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 14:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/15/22 14:25	07/18/22 21:12	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-20
Client ID: FB-071422-2
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 14:10
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/15/22 14:25	07/18/22 21:18	EPA 3005A	1,6020B	WP

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-18 Batch: WG1663362-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/15/22 16:15	07/19/22 21:36	1,6010D	DL

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 19-20 Batch: WG1663390-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/15/22 14:25	07/18/22 18:50	1,6020B	WP

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237706

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-18 Batch: WG1663362-2 SRM Lot Number: D113-540								
Lead, Total	86		-		72-128	-		
Total Metals - Mansfield Lab Associated sample(s): 19-20 Batch: WG1663390-2								
Lead, Total	102		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237706
Report Date: 07/22/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-18 QC Batch ID: WG1663362-3 QC Sample: L2237706-01 Client ID: PB-883-01-SS01												
Lead, Total	7.61J	48	48.2	100		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 19-20 QC Batch ID: WG1663390-3 WG1663390-4 QC Sample: L2237672-03 Client ID: MS Sample												
Lead, Total	0.9553J	530	569.8	108		561.0	106		75-125	2		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237706

Report Date: 07/22/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-18 QC Batch ID: WG1663362-4 QC Sample: L2237706-01 Client ID: PB-883-01-SS01						
Lead, Total	7.61J	8.10J	mg/kg	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-01
Client ID: PB-883-01-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 09:00
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.2		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-02
Client ID: PB-883-02-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 09:10
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.7		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-03
Client ID: PB-883-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 09:20
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.7		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-04
Client ID: PB-883-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 09:30
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.5		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-05
Client ID: PB-883-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 09:40
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.7		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-06
Client ID: PB-883-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 09:50
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.5		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-07
Client ID: PB-883-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/14/22 10:00
Date Received: 07/14/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.1		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-08
Client ID: PB-883-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 10:10
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.9		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-09
Client ID: PB-883-20-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 10:20
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.6		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-10
Client ID: PB-883-21-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 10:30
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.6		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-11
Client ID: PB-885-04-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 11:00
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.5		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-12
Client ID: PB-885-05-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 11:10
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.8		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-13
Client ID: PB-885-12-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 11:20
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.0		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-14
Client ID: PB-885-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/14/22 11:30
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.6		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-15
Client ID: PB-885-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 11:40
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.5		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-16
Client ID: PB-885-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 11:50
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.8		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-17
Client ID: PB-885-20-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 12:00
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.3		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2237706
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2237706-18
Client ID: PB-885-25-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/14/22 12:10
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.4		%	0.100	NA	1	-	07/15/22 12:56	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2237706

Report Date: 07/22/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-18 QC Batch ID: WG1663374-1 QC Sample: L2237706-01 Client ID: PB-883-01-SS01						
Solids, Total	83.2	83.8	%	1		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237706
Report Date: 07/22/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent
D	Absent
E	Absent
F	Absent
G	Absent
H	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237706-01A	Vial MeOH preserved	B	NA		4.7	Y	Absent		PA-8260HLW(14)
L2237706-01B	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-01C	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-01D	Plastic 120ml unpreserved	B	NA		4.7	Y	Absent		TS(7)
L2237706-01E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.7	Y	Absent		PB-TI(180)
L2237706-01F	Glass 120ml/4oz unpreserved	B	NA		4.7	Y	Absent		PA-PAH(14)
L2237706-02A	Vial MeOH preserved	B	NA		4.7	Y	Absent		PA-8260HLW(14)
L2237706-02B	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-02C	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-02D	Plastic 120ml unpreserved	B	NA		4.7	Y	Absent		TS(7)
L2237706-02E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.7	Y	Absent		PB-TI(180)
L2237706-02F	Glass 120ml/4oz unpreserved	B	NA		4.7	Y	Absent		PA-PAH(14)
L2237706-03A	Vial MeOH preserved	B	NA		4.7	Y	Absent		PA-8260HLW(14)
L2237706-03B	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-03C	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237706-03D	Plastic 120ml unpreserved	B	NA		4.7	Y	Absent		TS(7)
L2237706-03E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.7	Y	Absent		PB-TI(180)
L2237706-03F	Glass 120ml/4oz unpreserved	B	NA		4.7	Y	Absent		PA-PAH(14)
L2237706-04A	Vial MeOH preserved	B	NA		4.7	Y	Absent		PA-8260HLW(14)
L2237706-04B	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-04C	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-04D	Plastic 120ml unpreserved	B	NA		4.7	Y	Absent		TS(7)
L2237706-04E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.7	Y	Absent		PB-TI(180)
L2237706-04F	Glass 120ml/4oz unpreserved	B	NA		4.7	Y	Absent		PA-PAH(14)
L2237706-05A	Vial MeOH preserved	B	NA		4.7	Y	Absent		PA-8260HLW(14)
L2237706-05B	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-05C	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-05D	Plastic 120ml unpreserved	B	NA		4.7	Y	Absent		TS(7)
L2237706-05E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.7	Y	Absent		PB-TI(180)
L2237706-05F	Glass 120ml/4oz unpreserved	B	NA		4.7	Y	Absent		PA-PAH(14)
L2237706-06A	Vial MeOH preserved	G	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237706-06B	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-06C	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-06D	Plastic 120ml unpreserved	G	NA		4.0	Y	Absent		TS(7)
L2237706-06E	Metals Only-Glass 60mL/2oz unpreserved	G	NA		4.0	Y	Absent		PB-TI(180)
L2237706-06F	Glass 120ml/4oz unpreserved	G	NA		4.0	Y	Absent		PA-PAH(14)
L2237706-07A	Vial MeOH preserved	B	NA		4.7	Y	Absent		PA-8260HLW(14)
L2237706-07B	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-07C	Vial water preserved	B	NA		4.7	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-07D	Plastic 120ml unpreserved	B	NA		4.7	Y	Absent		TS(7)
L2237706-07E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		4.7	Y	Absent		PB-TI(180)
L2237706-07F	Glass 120ml/4oz unpreserved	B	NA		4.7	Y	Absent		PA-PAH(14)
L2237706-08A	Vial MeOH preserved	G	NA		4.0	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237706
Report Date: 07/22/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237706-08B	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-08C	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-08D	Plastic 120ml unpreserved	G	NA		4.0	Y	Absent		TS(7)
L2237706-08E	Metals Only-Glass 60mL/2oz unpreserved	G	NA		4.0	Y	Absent		PB-TI(180)
L2237706-08F	Glass 120ml/4oz unpreserved	G	NA		4.0	Y	Absent		PA-PAH(14)
L2237706-09A	Vial MeOH preserved	G	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237706-09B	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-09C	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-09D	Plastic 120ml unpreserved	G	NA		4.0	Y	Absent		TS(7)
L2237706-09E	Metals Only-Glass 60mL/2oz unpreserved	G	NA		4.0	Y	Absent		PB-TI(180)
L2237706-09F	Glass 120ml/4oz unpreserved	G	NA		4.0	Y	Absent		PA-PAH(14)
L2237706-10A	Vial MeOH preserved	G	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237706-10B	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-10C	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-10D	Plastic 120ml unpreserved	G	NA		4.0	Y	Absent		TS(7)
L2237706-10E	Metals Only-Glass 60mL/2oz unpreserved	G	NA		4.0	Y	Absent		PB-TI(180)
L2237706-10F	Glass 120ml/4oz unpreserved	G	NA		4.0	Y	Absent		PA-PAH(14)
L2237706-11A	Vial MeOH preserved	G	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237706-11B	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-11C	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-11D	Plastic 120ml unpreserved	G	NA		4.0	Y	Absent		TS(7)
L2237706-11E	Metals Only-Glass 60mL/2oz unpreserved	G	NA		4.0	Y	Absent		PB-TI(180)
L2237706-11F	Glass 120ml/4oz unpreserved	G	NA		4.0	Y	Absent		PA-PAH(14)
L2237706-12A	Vial water preserved	H	NA		2.4	Y	Absent		PA-8260HLW(14)
L2237706-12B	Vial MeOH preserved	H	NA		2.4	Y	Absent		PA-8260HLW(14)
L2237706-12C	Vial water preserved	H	NA		2.4	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-12D	Plastic 120ml unpreserved	H	NA		2.4	Y	Absent		TS(7)
L2237706-12E	Metals Only-Glass 60mL/2oz unpreserved	H	NA		2.4	Y	Absent		PB-TI(180)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237706
Report Date: 07/22/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237706-12F	Glass 120ml/4oz unpreserved	H	NA		2.4	Y	Absent		PA-PAH(14)
L2237706-13A	Vial MeOH preserved	G	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237706-13B	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-13C	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-13D	Plastic 120ml unpreserved	G	NA		4.0	Y	Absent		TS(7)
L2237706-13E	Metals Only-Glass 60mL/2oz unpreserved	G	NA		4.0	Y	Absent		PB-TI(180)
L2237706-13F	Glass 120ml/4oz unpreserved	G	NA		4.0	Y	Absent		PA-PAH(14)
L2237706-14A	Vial MeOH preserved	G	NA		4.0	Y	Absent		PA-8260HLW(14)
L2237706-14B	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-14C	Vial water preserved	G	NA		4.0	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-14D	Plastic 120ml unpreserved	G	NA		4.0	Y	Absent		TS(7)
L2237706-14E	Metals Only-Glass 60mL/2oz unpreserved	G	NA		4.0	Y	Absent		PB-TI(180)
L2237706-14F	Glass 120ml/4oz unpreserved	G	NA		4.0	Y	Absent		PA-PAH(14)
L2237706-15A	Vial MeOH preserved	D	NA		5.1	Y	Absent		PA-8260HLW(14)
L2237706-15B	Vial water preserved	D	NA		5.1	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-15C	Vial water preserved	D	NA		5.1	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-15D	Plastic 120ml unpreserved	D	NA		5.1	Y	Absent		TS(7)
L2237706-15E	Metals Only-Glass 60mL/2oz unpreserved	D	NA		5.1	Y	Absent		PB-TI(180)
L2237706-15F	Glass 120ml/4oz unpreserved	D	NA		5.1	Y	Absent		PA-PAH(14)
L2237706-16A	Vial MeOH preserved	H	NA		2.4	Y	Absent		PA-8260HLW(14)
L2237706-16B	Vial water preserved	H	NA		2.4	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-16C	Vial water preserved	H	NA		2.4	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-16D	Plastic 120ml unpreserved	H	NA		2.4	Y	Absent		TS(7)
L2237706-16E	Metals Only-Glass 60mL/2oz unpreserved	H	NA		2.4	Y	Absent		PB-TI(180)
L2237706-16F	Glass 120ml/4oz unpreserved	H	NA		2.4	Y	Absent		PA-PAH(14)
L2237706-17A	Vial MeOH preserved	H	NA		2.4	Y	Absent		PA-8260HLW(14)
L2237706-17B	Vial water preserved	H	NA		2.4	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-17C	Vial water preserved	H	NA		2.4	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2237706
Report Date: 07/22/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237706-17D	Plastic 120ml unpreserved	H	NA		2.4	Y	Absent		TS(7)
L2237706-17E	Metals Only-Glass 60mL/2oz unpreserved	H	NA		2.4	Y	Absent		PB-TI(180)
L2237706-17F	Glass 120ml/4oz unpreserved	H	NA		2.4	Y	Absent		PA-PAH(14)
L2237706-18A	Vial MeOH preserved	H	NA		2.4	Y	Absent		PA-8260HLW(14)
L2237706-18B	Vial water preserved	H	NA		2.4	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-18C	Vial water preserved	H	NA		2.4	Y	Absent	15-JUL-22 05:36	PA-8260HLW(14)
L2237706-18D	Plastic 120ml unpreserved	H	NA		2.4	Y	Absent		TS(7)
L2237706-18E	Metals Only-Glass 60mL/2oz unpreserved	H	NA		2.4	Y	Absent		PB-TI(180)
L2237706-18F	Glass 120ml/4oz unpreserved	H	NA		2.4	Y	Absent		PA-PAH(14)
L2237706-19A	Vial HCl preserved	D	NA		5.1	Y	Absent		PA-8260(14)
L2237706-19B	Vial HCl preserved	D	NA		5.1	Y	Absent		PA-8260(14)
L2237706-19C	Vial HCl preserved	D	NA		5.1	Y	Absent		PA-8260(14)
L2237706-19D	Vial HCl preserved	D	NA		5.1	Y	Absent		8011(14)
L2237706-19E	Vial HCl preserved	D	NA		5.1	Y	Absent		8011(14)
L2237706-19F	Plastic 250ml HNO3 preserved	D	<2	<2	5.1	Y	Absent		PB-6020T-PPB(180)
L2237706-19G	Amber 250ml unpreserved	D	7	7	5.1	Y	Absent		PA-PAHSIM-LVI(7)
L2237706-19H	Amber 250ml unpreserved	D	7	7	5.1	Y	Absent		PA-PAHSIM-LVI(7)
L2237706-20A	Vial HCl preserved	D	NA		5.1	Y	Absent		PA-8260(14)
L2237706-20B	Vial HCl preserved	D	NA		5.1	Y	Absent		PA-8260(14)
L2237706-20C	Vial HCl preserved	D	NA		5.1	Y	Absent		PA-8260(14)
L2237706-20D	Vial HCl preserved	D	NA		5.1	Y	Absent		8011(14)
L2237706-20E	Vial HCl preserved	D	NA		5.1	Y	Absent		8011(14)
L2237706-20F	Plastic 250ml HNO3 preserved	D	<2	<2	5.1	Y	Absent		PB-6020T-PPB(180)
L2237706-20G	Amber 250ml unpreserved	D	7	7	5.1	Y	Absent		PA-PAHSIM-LVI(7)
L2237706-20H	Amber 250ml unpreserved	D	7	7	5.1	Y	Absent		PA-PAHSIM-LVI(7)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237706
Project Number:	200.00135.006	**Report Date:**	07/22/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237706
Project Number:	200.00135.006	**Report Date:**	07/22/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237706
Project Number:	200.00135.006	**Report Date:**	07/22/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2237706
Project Number:	200.00135.006	**Report Date:**	07/22/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/15/22

ALPHA Job #: L2237706

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
37706-01	PB-SS3-01-5501	7/14/22	900	S	CA	
02	PB-SS3-02-5501		910			
03	PB-SS3-03-5501		920			
04	PB-SS3-04-5501		930			
05	PB-SS3-05-5501		940			
06	PB-SS3-06-5501		950			
07	PB-SS3-07-5501		1000			
08	PB-SS3-15-5501		1010			
09	PB-SS3-20-5501		1020			
10	PB-SS3-21-5501	↓	1030	N/A	↓	

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/14/22	[signature]	7/14/22 1550
[signature]	7/14/22 1680	[signature]	7/14/22 1600
[signature]	7/14/22 2100	[signature]	7/14/22 2100
GLMAL	7/15/22 0120	GLMAL	7/14/22 2351

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(HALL) (rev. 5-JAN-11)

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/15/22

ALPHA Job #: L2237706

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short List 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
37706-11	PB-SS5-04-5501	7/14/22	1100	S		
12	PB-SS5-05-5501		1110			
13	PB-SS5-12-5501		1120			
14	PB-SS5-13-5501		1130			
15	PB-SS5-14-5501		1140			
16	PB-SS5-15-5501		1150			
17	PB-SS5-20-5501		1200			
18	PB-SS5-25-5501		1210			
19	FB-071422-1		1400	W		
20	FB-071422-2		1410			

Container Type: - - G - - - - - - - - -
Preservative: - - - - - - - - - - - -

Relinquished By:	Date/Time	Received By:	Date/Time
	7/14/22		7/14/22 1550
	7/14/22 1810		
	7/14-2100		7/14/22 2100
7/15/22		7/14/22 2350	

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(LO) (rev. 5-JAN-12)

PADEP Short List Analytical Suites per Table III-5:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

ANALYTICAL REPORT

Lab Number:	L2238021
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/22/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2238021-01	PB-884-24-SS01	SOIL	PHILADELPHIA, PA	07/15/22 08:15	07/15/22
L2238021-02	PB-884-25-SS01	SOIL	PHILADELPHIA, PA	07/15/22 08:30	07/15/22
L2238021-03	PB-886-06-SS01	SOIL	PHILADELPHIA, PA	07/15/22 09:00	07/15/22
L2238021-04	PB-886-07-SS01	SOIL	PHILADELPHIA, PA	07/15/22 09:15	07/15/22
L2238021-05	PB-886-10-SS01	SOIL	PHILADELPHIA, PA	07/15/22 09:30	07/15/22
L2238021-06	PB-886-13-SS01	SOIL	PHILADELPHIA, PA	07/15/22 09:45	07/15/22
L2238021-07	PB-886-14-SS01	SOIL	PHILADELPHIA, PA	07/15/22 10:00	07/15/22
L2238021-08	PB-886-15-SS01	SOIL	PHILADELPHIA, PA	07/15/22 10:15	07/15/22
L2238021-09	PB-886-19-SS01	SOIL	PHILADELPHIA, PA	07/15/22 10:30	07/15/22
L2238021-10	PB-886-20-SS01	SOIL	PHILADELPHIA, PA	07/15/22 10:45	07/15/22
L2238021-11	PB-191-03-SS01	SOIL	PHILADELPHIA, PA	07/15/22 11:00	07/15/22
L2238021-12	DUP-46	SOIL	PHILADELPHIA, PA	07/15/22 00:00	07/15/22
L2238021-13	FB-07152022-2	WATER	PHILADELPHIA, PA	07/15/22 11:15	07/15/22
L2238021-14	FB-07152022-3	WATER	PHILADELPHIA, PA	07/15/22 11:30	07/15/22
L2238021-15	TB-071522	WATER	PHILADELPHIA, PA	07/15/22 00:00	07/15/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238021
Project Number:	200.00135.006	**Report Date:**	07/22/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238021
Project Number:	200.00135.006	**Report Date:**	07/22/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2238021-02: The surrogate recoveries are outside the acceptance criteria for toluene-d8 (157%) and 4-bromofluorobenzene (166%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2238021-02D: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (135%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2238021-05: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (173%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Total Metals

L2238021-01: The sample has an elevated detection limit for lead due to the dilution required by matrix interferences encountered during analysis.

The WG1664023-3 MS recovery, performed on L2238021-01, is outside the acceptance criteria for lead (38%). A post digestion spike was performed and was within acceptance criteria.

The WG1664023-4 Laboratory Duplicate RPD for lead (21%), performed on L2238021-01, is outside the acceptance criteria. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Caitlin Walukevich

Title: Technical Director/Representative

Date: 07/22/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-01
Client ID: PB-884-24-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 08:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/20/22 11:02
Analyst: JC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0025	0.00025	1
Benzene	0.034		mg/kg	0.00063	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00032	1
Toluene	ND		mg/kg	0.0013	0.00069	1
1,2-Dibromoethane	ND		mg/kg	0.00063	0.00037	1
Ethylbenzene	0.095		mg/kg	0.0013	0.00018	1
p/m-Xylene	0.33		mg/kg	0.0025	0.00071	1
o-Xylene	0.032		mg/kg	0.0013	0.00037	1
Xylenes, Total	0.36		mg/kg	0.0013	0.00037	1
Isopropylbenzene	0.030		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	0.042		mg/kg	0.0025	0.00024	1
1,2,4-Trimethylbenzene	0.13		mg/kg	0.0025	0.00042	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	76		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	76		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-02
Client ID: PB-884-25-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 08:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/20/22 11:29
Analyst: JC
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.11	0.011	1
Benzene	7.1		mg/kg	0.027	0.0090	1
1,2-Dichloroethane	ND		mg/kg	0.054	0.014	1
Toluene	16.	E	mg/kg	0.054	0.030	1
1,2-Dibromoethane	ND		mg/kg	0.027	0.016	1
Ethylbenzene	9.4		mg/kg	0.054	0.0077	1
p/m-Xylene	29.		mg/kg	0.11	0.030	1
o-Xylene	12.		mg/kg	0.054	0.016	1
Xylenes, Total	41.		mg/kg	0.054	0.016	1
Isopropylbenzene	3.0		mg/kg	0.054	0.0059	1
1,3,5-Trimethylbenzene	3.8		mg/kg	0.11	0.010	1
1,2,4-Trimethylbenzene	12.		mg/kg	0.11	0.018	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	74		70-130
Toluene-d8	**157**	Q	70-130
4-Bromofluorobenzene	**166**	Q	70-130
Dibromofluoromethane	70		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-02 D
Client ID: PB-884-25-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 08:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/21/22 18:41
Analyst: AJK
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Toluene	15.		mg/kg	0.11	0.059	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	75		70-130
Toluene-d8	129		70-130
4-Bromofluorobenzene	**135**	Q	70-130
Dibromofluoromethane	71		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-03
Client ID: PB-886-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 16:40
Analyst: AJK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00022	1
Benzene	ND		mg/kg	0.00054	0.00018	1
1,2-Dichloroethane	ND		mg/kg	0.0011	0.00028	1
Toluene	ND		mg/kg	0.0011	0.00058	1
1,2-Dibromoethane	ND		mg/kg	0.00054	0.00031	1
Ethylbenzene	ND		mg/kg	0.0011	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00060	1
o-Xylene	ND		mg/kg	0.0011	0.00031	1
Xylenes, Total	ND		mg/kg	0.0011	0.00031	1
Isopropylbenzene	ND		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00021	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00036	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-04
Client ID: PB-886-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 17:12
Analyst: AJK
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0047	0.00048	1
Benzene	ND		mg/kg	0.0012	0.00039	1
1,2-Dichloroethane	ND		mg/kg	0.0024	0.00061	1
Toluene	ND		mg/kg	0.0024	0.0013	1
1,2-Dibromoethane	ND		mg/kg	0.0012	0.00070	1
Ethylbenzene	ND		mg/kg	0.0024	0.00033	1
p/m-Xylene	ND		mg/kg	0.0047	0.0013	1
o-Xylene	ND		mg/kg	0.0024	0.00069	1
Xylenes, Total	ND		mg/kg	0.0024	0.00069	1
Isopropylbenzene	ND		mg/kg	0.0024	0.00026	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0047	0.00046	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0047	0.00079	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	99		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-05
Client ID: PB-886-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 17:43
Analyst: AJK
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00024	1
Benzene	ND		mg/kg	0.00060	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00065	1
1,2-Dibromoethane	ND		mg/kg	0.00060	0.00035	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00067	1
o-Xylene	0.00053	J	mg/kg	0.0012	0.00035	1
Xylenes, Total	0.00053	J	mg/kg	0.0012	0.00035	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	0.0014	J	mg/kg	0.0024	0.00023	1
1,2,4-Trimethylbenzene	0.00084	J	mg/kg	0.0024	0.00040	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	**173**	Q	70-130
Dibromofluoromethane	103		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-06
Client ID: PB-886-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:45
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 18:13
Analyst: AJK
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0043	0.00043	1
Benzene	ND		mg/kg	0.0011	0.00036	1
1,2-Dichloroethane	ND		mg/kg	0.0021	0.00055	1
Toluene	ND		mg/kg	0.0021	0.0012	1
1,2-Dibromoethane	ND		mg/kg	0.0011	0.00063	1
Ethylbenzene	ND		mg/kg	0.0021	0.00030	1
p/m-Xylene	ND		mg/kg	0.0043	0.0012	1
o-Xylene	ND		mg/kg	0.0021	0.00062	1
Xylenes, Total	ND		mg/kg	0.0021	0.00062	1
Isopropylbenzene	ND		mg/kg	0.0021	0.00023	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0043	0.00041	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0043	0.00072	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-07
Client ID: PB-886-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 10:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 18:43
Analyst: AJK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0024	0.00025	1
Benzene	ND		mg/kg	0.00061	0.00020	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00031	1
Toluene	ND		mg/kg	0.0012	0.00066	1
1,2-Dibromoethane	ND		mg/kg	0.00061	0.00036	1
Ethylbenzene	ND		mg/kg	0.0012	0.00017	1
p/m-Xylene	ND		mg/kg	0.0024	0.00068	1
o-Xylene	ND		mg/kg	0.0012	0.00036	1
Xylenes, Total	ND		mg/kg	0.0012	0.00036	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0024	0.00024	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0024	0.00041	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-08
Client ID: PB-886-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 10:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 19:14
Analyst: AJK
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0035	0.00035	1
Benzene	ND		mg/kg	0.00087	0.00029	1
1,2-Dichloroethane	ND		mg/kg	0.0017	0.00045	1
Toluene	ND		mg/kg	0.0017	0.00094	1
1,2-Dibromoethane	ND		mg/kg	0.00087	0.00051	1
Ethylbenzene	ND		mg/kg	0.0017	0.00024	1
p/m-Xylene	ND		mg/kg	0.0035	0.00097	1
o-Xylene	ND		mg/kg	0.0017	0.00051	1
Xylenes, Total	ND		mg/kg	0.0017	0.00051	1
Isopropylbenzene	ND		mg/kg	0.0017	0.00019	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0035	0.00034	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0035	0.00058	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-09
Client ID: PB-886-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 10:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/20/22 00:14
Analyst: JC
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0026	0.00027	1
Benzene	ND		mg/kg	0.00066	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00034	1
Toluene	ND		mg/kg	0.0013	0.00072	1
1,2-Dibromoethane	ND		mg/kg	0.00066	0.00039	1
Ethylbenzene	ND		mg/kg	0.0013	0.00019	1
p/m-Xylene	ND		mg/kg	0.0026	0.00074	1
o-Xylene	ND		mg/kg	0.0013	0.00039	1
Xylenes, Total	ND		mg/kg	0.0013	0.00039	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0026	0.00026	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0026	0.00044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-10
Client ID: PB-886-20-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 10:45
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/20/22 00:43
Analyst: JC
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0025	0.00025	1
Benzene	ND		mg/kg	0.00063	0.00021	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00032	1
Toluene	ND		mg/kg	0.0012	0.00068	1
1,2-Dibromoethane	ND		mg/kg	0.00063	0.00037	1
Ethylbenzene	ND		mg/kg	0.0012	0.00018	1
p/m-Xylene	ND		mg/kg	0.0025	0.00070	1
o-Xylene	ND		mg/kg	0.0012	0.00037	1
Xylenes, Total	ND		mg/kg	0.0012	0.00037	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0025	0.00024	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0025	0.00042	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-11
Client ID: PB-191-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/20/22 01:11
Analyst: JC
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0026	0.00026	1
Benzene	ND		mg/kg	0.00066	0.00022	1
1,2-Dichloroethane	ND		mg/kg	0.0013	0.00034	1
Toluene	ND		mg/kg	0.0013	0.00072	1
1,2-Dibromoethane	ND		mg/kg	0.00066	0.00039	1
Ethylbenzene	ND		mg/kg	0.0013	0.00018	1
p/m-Xylene	ND		mg/kg	0.0026	0.00074	1
o-Xylene	ND		mg/kg	0.0013	0.00038	1
Xylenes, Total	ND		mg/kg	0.0013	0.00038	1
Isopropylbenzene	ND		mg/kg	0.0013	0.00014	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0026	0.00025	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0026	0.00044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-12
Client ID: DUP-46
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/20/22 01:40
Analyst: JC
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0033	0.00033	1
Benzene	ND		mg/kg	0.00083	0.00028	1
1,2-Dichloroethane	ND		mg/kg	0.0017	0.00043	1
Toluene	ND		mg/kg	0.0017	0.00090	1
1,2-Dibromoethane	ND		mg/kg	0.00083	0.00049	1
Ethylbenzene	ND		mg/kg	0.0017	0.00023	1
p/m-Xylene	ND		mg/kg	0.0033	0.00093	1
o-Xylene	ND		mg/kg	0.0017	0.00048	1
Xylenes, Total	ND		mg/kg	0.0017	0.00048	1
Isopropylbenzene	ND		mg/kg	0.0017	0.00018	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0033	0.00032	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0033	0.00056	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-13
Client ID: FB-07152022-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/20/22 15:50
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/20/22 13:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-13
Client ID: FB-07152022-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/20/22 13:28
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	125		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	127		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-14
Client ID: FB-07152022-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/20/22 15:56
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/20/22 13:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-14
Client ID: FB-07152022-3
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/20/22 13:55
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	122		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	129		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-15
Client ID: TB-071522
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/20/22 16:03
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/20/22 13:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-15
Client ID: TB-071522
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/20/22 14:21
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	123		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	**131**	Q	70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/20/22 14:35
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/20/22 13:30

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 13-15 Batch: WG1664686-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/19/22 09:51
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03-08 Batch: WG1664964-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/19/22 23:46
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 09-12 Batch: WG1665206-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	93		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2238021

Project Number: 200.00135.006 **Report Date:** 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/20/22 08:50
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1665306-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	90		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/20/22 08:50
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 02 Batch: WG1665578-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	91		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/20/22 08:41
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 13-15 Batch: WG1665694-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	124		70-130

Project Name: PHILADELPHIA REFINERY **Lab Number:** L2238021

Project Number: 200.00135.006 **Report Date:** 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/21/22 11:39
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 02 Batch: WG1666031-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
1,2-Dichloroethane	ND		mg/kg	0.050	0.013
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	86		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	86		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238021

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 13-15 Batch: WG1664686-2								
1,2-Dibromoethane	93		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238021

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 03-08 Batch: WG1664964-3 WG1664964-4								
Methyl tert butyl ether	122		119		66-130	2		30
Benzene	110		103		70-130	7		30
1,2-Dichloroethane	102		100		70-130	2		30
Toluene	108		103		70-130	5		30
1,2-Dibromoethane	109		109		70-130	0		30
Ethylbenzene	107		102		70-130	5		30
p/m-Xylene	109		103		70-130	6		30
o-Xylene	108		103		70-130	5		30
Isopropylbenzene	110		103		70-130	7		30
1,3,5-Trimethylbenzene	107		101		70-130	6		30
1,2,4-Trimethylbenzene	108		102		70-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		96		70-130
Toluene-d8	102		102		70-130
4-Bromofluorobenzene	105		105		70-130
Dibromofluoromethane	93		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 09-12 Batch: WG1665206-3 WG1665206-4								
Methyl tert butyl ether	116		115		66-130	1		30
Benzene	107		106		70-130	1		30
1,2-Dichloroethane	98		98		70-130	0		30
Toluene	105		105		70-130	0		30
1,2-Dibromoethane	104		104		70-130	0		30
Ethylbenzene	104		104		70-130	0		30
p/m-Xylene	105		105		70-130	0		30
o-Xylene	105		104		70-130	1		30
Isopropylbenzene	108		108		70-130	0		30
1,3,5-Trimethylbenzene	104		104		70-130	0		30
1,2,4-Trimethylbenzene	105		105		70-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	101		102		70-130
4-Bromofluorobenzene	106		105		70-130
Dibromofluoromethane	91		91		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1665306-3 WG1665306-4								
Methyl tert butyl ether	100		98		66-130	2		30
Benzene	88		84		70-130	5		30
1,2-Dichloroethane	**69**	Q	**66**	Q	70-130	4		30
Toluene	88		85		70-130	3		30
1,2-Dibromoethane	85		83		70-130	2		30
Ethylbenzene	85		82		70-130	4		30
p/m-Xylene	88		86		70-130	2		30
o-Xylene	87		84		70-130	4		30
Isopropylbenzene	92		89		70-130	3		30
1,3,5-Trimethylbenzene	88		86		70-130	2		30
1,2,4-Trimethylbenzene	87		85		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	76		75		70-130
Toluene-d8	102		101		70-130
4-Bromofluorobenzene	104		103		70-130
Dibromofluoromethane	78		77		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 02 Batch: WG1665578-3 WG1665578-4								
Methyl tert butyl ether	100		98		66-130	2		30
Benzene	88		84		70-130	5		30
1,2-Dichloroethane	**69**	Q	**66**	Q	70-130	4		30
Toluene	88		85		70-130	3		30
1,2-Dibromoethane	85		83		70-130	2		30
Ethylbenzene	85		82		70-130	4		30
p/m-Xylene	88		86		70-130	2		30
o-Xylene	87		84		70-130	4		30
Isopropylbenzene	92		89		70-130	3		30
1,3,5-Trimethylbenzene	88		86		70-130	2		30
1,2,4-Trimethylbenzene	87		85		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	76		75		70-130
Toluene-d8	102		101		70-130
4-Bromofluorobenzene	104		103		70-130
Dibromofluoromethane	78		77		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238021

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 13-15 Batch: WG1665694-3 WG1665694-4								
Methyl tert butyl ether	87		94		63-130	8		20
Benzene	110		110		70-130	0		20
1,2-Dichloroethane	100		100		70-130	0		20
Toluene	99		100		70-130	1		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	105		105		70-130	0		20
o-Xylene	100		100		70-130	0		20
Isopropylbenzene	91		92		70-130	1		20
1,3,5-Trimethylbenzene	94		95		64-130	1		20
1,2,4-Trimethylbenzene	93		94		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		102		70-130
Toluene-d8	96		96		70-130
4-Bromofluorobenzene	87		87		70-130
Dibromofluoromethane	110		110		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238021

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 02 Batch: WG1666031-3 WG1666031-4								
Methyl tert butyl ether	102		101		66-130	1		30
Benzene	86		86		70-130	0		30
1,2-Dichloroethane	**66**	Q	**66**	Q	70-130	0		30
Toluene	90		88		70-130	2		30
1,2-Dibromoethane	84		85		70-130	1		30
Ethylbenzene	86		83		70-130	4		30
p/m-Xylene	88		86		70-130	2		30
o-Xylene	89		85		70-130	5		30
Isopropylbenzene	93		91		70-130	2		30
1,3,5-Trimethylbenzene	88		86		70-130	2		30
1,2,4-Trimethylbenzene	86		85		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	72		74		70-130
Toluene-d8	103		103		70-130
4-Bromofluorobenzene	103		104		70-130
Dibromofluoromethane	75		75		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-01
Client ID: PB-884-24-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 08:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 16:34
Analyst: IM
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.082	J	mg/kg	0.20	0.025	1
Fluorene	ND		mg/kg	0.20	0.020	1
Phenanthrene	0.042	J	mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	0.051	J	mg/kg	0.12	0.020	1
Benzo(a)anthracene	0.048	J	mg/kg	0.12	0.023	1
Chrysene	0.040	J	mg/kg	0.12	0.021	1
Benzo(b)fluoranthene	0.046	J	mg/kg	0.12	0.034	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.050	1
Benzo(ghi)perylene	ND		mg/kg	0.16	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-02
Client ID: PB-884-25-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 08:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 16:58
Analyst: IM
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	2.1		mg/kg	0.18	0.022	1
Fluorene	0.31		mg/kg	0.18	0.017	1
Phenanthrene	0.53		mg/kg	0.11	0.022	1
Anthracene	0.035	J	mg/kg	0.11	0.035	1
Pyrene	0.048	J	mg/kg	0.11	0.018	1
Benzo(a)anthracene	0.022	J	mg/kg	0.11	0.020	1
Chrysene	0.084	J	mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.044	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**122**	Q	23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	83		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-03
Client ID: PB-886-06-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 17:22
Analyst: IM
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	91		23-120
2-Fluorobiphenyl	76		30-120
4-Terphenyl-d14	89		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-04
Client ID: PB-886-07-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 17:47
Analyst: IM
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	93		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-05
Client ID: PB-886-10-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 12:55
Analyst: IM
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.041	J	mg/kg	0.18	0.022	1
Fluorene	0.35		mg/kg	0.18	0.017	1
Phenanthrene	0.78		mg/kg	0.11	0.022	1
Anthracene	0.16		mg/kg	0.11	0.034	1
Pyrene	0.049	J	mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	54		30-120
4-Terphenyl-d14	68		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-06
Client ID: PB-886-13-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:45
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 13:19
Analyst: IM
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	62		23-120
2-Fluorobiphenyl	52		30-120
4-Terphenyl-d14	52		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-07
Client ID: PB-886-14-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 10:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 18:11
Analyst: IM
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	89		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-08
Client ID: PB-886-15-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 10:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 18:35
Analyst: IM
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	95		23-120
2-Fluorobiphenyl	84		30-120
4-Terphenyl-d14	95		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-09
Client ID: PB-886-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 10:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 13:44
Analyst: IM
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	62		23-120
2-Fluorobiphenyl	56		30-120
4-Terphenyl-d14	59		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-10
Client ID: PB-886-20-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 10:45
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 14:08
Analyst: IM
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	75		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-11
Client ID: PB-191-03-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 14:32
Analyst: IM
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.21	0.025	1
Fluorene	ND		mg/kg	0.21	0.020	1
Phenanthrene	ND		mg/kg	0.12	0.025	1
Anthracene	ND		mg/kg	0.12	0.040	1
Pyrene	0.16		mg/kg	0.12	0.021	1
Benzo(a)anthracene	0.11	J	mg/kg	0.12	0.023	1
Chrysene	0.10	J	mg/kg	0.12	0.022	1
Benzo(b)fluoranthene	0.13		mg/kg	0.12	0.035	1
Benzo(a)pyrene	0.12	J	mg/kg	0.17	0.051	1
Indeno(1,2,3-cd)pyrene	0.070	J	mg/kg	0.17	0.029	1
Benzo(ghi)perylene	0.060	J	mg/kg	0.17	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	61		30-120
4-Terphenyl-d14	66		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-12
Client ID: DUP-46
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 14:57
Analyst: IM
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.023	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	59		23-120
2-Fluorobiphenyl	52		30-120
4-Terphenyl-d14	56		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-13
Client ID: FB-07152022-2
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/17/22 19:12
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/16/22 08:39

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.09	J	ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	0.04	J	ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.02	J	ug/l	0.05	0.02	1
Chrysene	0.01	J	ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	36		23-120
2-Fluorobiphenyl	39		15-120
4-Terphenyl-d14	45		41-149

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-14
Client ID: FB-07152022-3
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/22/22 13:35
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/21/22 15:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.03	J	ug/l	0.05	0.02	1
Chrysene	0.02	J	ug/l	0.10	0.01	1
Benzo(b)fluoranthene	0.04	J	ug/l	0.05	0.01	1
Benzo(a)pyrene	0.02	J	ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	0.03	J	ug/l	0.10	0.01	1
Benzo(ghi)perylene	0.03	J	ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	42		23-120
2-Fluorobiphenyl	41		15-120
4-Terphenyl-d14	**39**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/17/22 16:33
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/16/22 08:39

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 13 Batch: WG1663655-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	0.03	J	ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	0.02	J	ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	38		23-120
2-Fluorobiphenyl	41		15-120
4-Terphenyl-d14	49		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/18/22 11:42
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-12 Batch: WG1663763-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.13	0.023
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	88		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/22/22 12:13
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/21/22 15:05

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 14 Batch: WG1665807-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	0.03	J	ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	0.02	J	ug/l	0.05	0.02
Chrysene	0.01	J	ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	81		15-120
4-Terphenyl-d14	86		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 13 Batch: WG1663655-2 WG1663655-3								
Naphthalene	80		69		40-140	15		40
Fluorene	83		73		40-140	13		40
Phenanthrene	84		73		40-140	14		40
Anthracene	85		74		40-140	14		40
Pyrene	92		80		26-127	14		40
Benzo(a)anthracene	84		73		40-140	14		40
Chrysene	87		78		40-140	11		40
Benzo(b)fluoranthene	88		85		40-140	3		40
Benzo(a)pyrene	87		76		40-140	13		40
Indeno(1,2,3-cd)pyrene	98		88		40-140	11		40
Benzo(ghi)perylene	97		85		40-140	13		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	40		35		23-120
2-Fluorobiphenyl	42		37		15-120
4-Terphenyl-d14	47		42		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-12 Batch: WG1663763-2 WG1663763-3								
Naphthalene	68		62		40-140	9		50
Fluorene	71		64		40-140	10		50
Phenanthrene	66		62		40-140	6		50
Anthracene	69		65		40-140	6		50
Pyrene	74		62		35-142	18		50
Benzo(a)anthracene	71		66		40-140	7		50
Chrysene	71		66		40-140	7		50
Benzo(b)fluoranthene	74		67		40-140	10		50
Benzo(a)pyrene	78		62		40-140	23		50
Indeno(1,2,3-cd)pyrene	74		76		40-140	3		50
Benzo(ghi)perylene	66		65		40-140	2		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	76		70		23-120
2-Fluorobiphenyl	71		65		30-120
4-Terphenyl-d14	80		66		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 14 Batch: WG1665807-2 WG1665807-3								
Naphthalene	84		79		40-140	6		40
Fluorene	89		86		40-140	3		40
Phenanthrene	88		82		40-140	7		40
Anthracene	90		81		40-140	11		40
Pyrene	89		77		26-127	14		40
Benzo(a)anthracene	90		84		40-140	7		40
Chrysene	89		82		40-140	8		40
Benzo(b)fluoranthene	92		85		40-140	8		40
Benzo(a)pyrene	90		84		40-140	7		40
Indeno(1,2,3-cd)pyrene	99		93		40-140	6		40
Benzo(ghi)perylene	97		91		40-140	6		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	84		78		23-120
2-Fluorobiphenyl	84		75		15-120
4-Terphenyl-d14	88		73		41-149

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-01
Client ID: PB-884-24-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 08:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	45.9		mg/kg	11.7	0.626	5	07/18/22 08:15	07/18/22 17:41	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-02
Client ID: PB-884-25-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 08:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.11		mg/kg	2.13	0.114	1	07/18/22 08:15	07/18/22 18:17	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-03
Client ID: PB-886-06-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.26		mg/kg	2.20	0.118	1	07/18/22 08:15	07/18/22 18:22	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-04
Client ID: PB-886-07-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.62		mg/kg	2.23	0.119	1	07/18/22 08:15	07/18/22 18:27	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-05
Client ID: PB-886-10-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.97	J	mg/kg	2.11	0.113	1	07/18/22 08:15	07/18/22 18:31	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-06
Client ID: PB-886-13-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:45
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	3.04		mg/kg	2.26	0.121	1	07/18/22 08:15	07/18/22 18:36	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-07
Client ID: PB-886-14-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 10:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.16	J	mg/kg	2.18	0.117	1	07/18/22 08:15	07/18/22 18:41	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-08
Client ID: PB-886-15-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 10:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.56		mg/kg	2.20	0.118	1	07/18/22 08:15	07/18/22 18:46	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-09
Client ID: PB-886-19-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 10:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.28		mg/kg	2.24	0.120	1	07/18/22 08:15	07/18/22 18:51	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-10
Client ID: PB-886-20-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 10:45
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.19	J	mg/kg	2.22	0.119	1	07/18/22 08:15	07/18/22 18:55	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-11
Client ID: PB-191-03-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	19.8		mg/kg	2.41	0.129	1	07/18/22 08:15	07/18/22 19:00	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-12
Client ID: DUP-46
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.04	J	mg/kg	2.14	0.115	1	07/18/22 08:15	07/18/22 19:14	EPA 3050B	1,6010D	NB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-13
Client ID: FB-07152022-2
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:15
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/18/22 13:42	07/19/22 19:59	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238021
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-14
Client ID: FB-07152022-3
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/18/22 13:42	07/19/22 20:57	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-12 Batch: WG1664023-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/18/22 08:15	07/18/22 16:10	1,6010D	NB

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 13-14 Batch: WG1664131-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/18/22 13:42	07/19/22 18:48	1,6020B	SV

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238021

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-12 Batch: WG1664023-2 SRM Lot Number: D113-540								
Lead, Total	98		-		72-128	-		
Total Metals - Mansfield Lab Associated sample(s): 13-14 Batch: WG1664131-2								
Lead, Total	104		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-12 QC Batch ID: WG1664023-3 QC Sample: L2238021-01 Client ID: PB-884-24-SS01												
Lead, Total	45.9	51.2	65.5	**38**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 13-14 QC Batch ID: WG1664131-3 QC Sample: L2237200-07 Client ID: MS Sample												
Lead, Total	ND	530	528.2	100		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238021

Report Date: 07/22/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-12 QC Batch ID: WG1664023-4 QC Sample: L2238021-01 Client ID: PB-884-24-SS01						
Lead, Total	45.9	37.0	mg/kg	**21**	Q	20
Total Metals - Mansfield Lab Associated sample(s): 13-14 QC Batch ID: WG1664131-4 QC Sample: L2237200-07 Client ID: DUP Sample						
Lead, Total	ND	ND	ug/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-01
Client ID: PB-884-24-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 08:15
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.4		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-02
Client ID: PB-884-25-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 08:30
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.1		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-03
Client ID: PB-886-06-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 09:00
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.7		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-04
Client ID: PB-886-07-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 09:15
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.5		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-05
Client ID: PB-886-10-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 09:30
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.5		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-06
Client ID: PB-886-13-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 09:45
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.9		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-07
Client ID: PB-886-14-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 10:00
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.2		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-08
Client ID: PB-886-15-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 10:15
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.1		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-09
Client ID: PB-886-19-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 10:30
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.9		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-10
Client ID: PB-886-20-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 10:45
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.6		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-11
Client ID: PB-191-03-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/15/22 11:00
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.2		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238021
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238021-12
Client ID: DUP-46
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.5		%	0.100	NA	1	-	07/16/22 11:52	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238021

Report Date: 07/22/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-12 QC Batch ID: WG1663681-1 QC Sample: L2237931-01 Client ID: DUP Sample						
Solids, Total	82.6	82.0	%	1		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2238021-01A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-01B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-01C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-01D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-01E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-01F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-02A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-02B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-02C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-02D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-02E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-02F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-03A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-03B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-03C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-03D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-03E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-03F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-04A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-04B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-04C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2238021-04D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-04E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-04F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-05A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-05B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-05C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-05D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-05E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-05F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-06A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-06B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-06C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-06D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-06E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-06F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-07A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-07B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238021-07C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238021-07D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-07E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-07F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-08A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)
L2238021-08B	Vial water preserved	A	NA		2.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238021-08C	Vial water preserved	A	NA		2.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238021-08D	Plastic 2oz unpreserved for TS	A	NA		2.7	Y	Absent		TS(7)
L2238021-08E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		PB-TI(180)
L2238021-08F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		PA-PAH(14)
L2238021-09A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2238021-09B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238021-09C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238021-09D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-09E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-09F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-10A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-10B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238021-10C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238021-10D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-10E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-10F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-11A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-11B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-11C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-11D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-11E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-11F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-12A	Vial MeOH preserved	C	NA		4.1	Y	Absent		PA-8260HLW(14)
L2238021-12B	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-12C	Vial water preserved	C	NA		4.1	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238021-12D	Plastic 2oz unpreserved for TS	C	NA		4.1	Y	Absent		TS(7)
L2238021-12E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		4.1	Y	Absent		PB-TI(180)
L2238021-12F	Glass 120ml/4oz unpreserved	C	NA		4.1	Y	Absent		PA-PAH(14)
L2238021-13A	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238021-13B	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238021-13C	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238021-13D	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		8011(14)
L2238021-13E	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238021
Report Date: 07/22/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2238021-13F	Amber 250ml unpreserved	A	7	7	2.7	Y	Absent		PA-PAHSIM-LVI(7)
L2238021-13G	Amber 250ml unpreserved	A	7	7	2.7	Y	Absent		PA-PAHSIM-LVI(7)
L2238021-13H	Plastic 250ml HNO3 preserved	A	<2	<2	2.7	Y	Absent		PB-6020T-PPB(180)
L2238021-14A	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238021-14B	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238021-14C	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238021-14D	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		8011(14)
L2238021-14E	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		8011(14)
L2238021-14F	Amber 250ml unpreserved	A	7	7	2.7	Y	Absent		PA-PAHSIM-LVI(7)
L2238021-14G	Amber 250ml unpreserved	A	7	7	2.7	Y	Absent		PA-PAHSIM-LVI(7)
L2238021-14H	Plastic 250ml HNO3 preserved	A	<2	<2	2.7	Y	Absent		PB-6020T-PPB(180)
L2238021-15A	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238021-15B	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238021-15C	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		8011(14)
L2238021-15D	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238021
Project Number:	200.00135.006	**Report Date:**	07/22/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238021
Project Number:	200.00135.006	**Report Date:**	07/22/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238021
Project Number:	200.00135.006	**Report Date:**	07/22/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238021
Project Number:	200.00135.006	**Report Date:**	07/22/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 7/16/22

ALPHA Job #: L2238021

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SHORTLIST 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
38021-01	PB-884-21-5501	7/15	0815	S	TS	
-02	PB-884-25-5501		0830			
-03	PB-886-06-5501		0900			
-04	PB-886-07-5501		0915			
-05	PB-886-10-5501		0930			
-06	PB-886-13-5501		0945			
-07	PB-886-14-5501		1000			
-08	PB-886-15-5501		1015			
-09	PB-886-19-5501		1030			
-10	PB-886-20-5501	↓	1045	↓	↓	

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/15 15:15	Omea Jeay	7/15/22 15:15
Omea Jeay	7/15/22 2001		
	7/15/22 2100		7/15/22 2100

C/ BDL 7/15/22 2350

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(I) (rev. 3-JAN-13)

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 7/16/22

ALPHA Job #: L2238021

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	SHORTLIST 1-6	SHORTLIST 1-5	VOC PORTION OF SL 1-6	EDB (8011)	Sample Specific Comments	TOTAL # BOTTLES
38021-01	PB-141-03-5501	7/15	1100	S	IS	☐	☐	☐	☐		
-02	DUP-46		-	S	IS	☐	☑	☐	☐		
-03	FB-071522-2		1115	W	IS	☑	☐	☐	☐		
-04	FB-071522-3		1130	W	IS	☑	☐	☑	☑		
-05	TB-071522		-	W	IS	☐	☐	☑	☑		

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
	7/15/22 15:15		7/15/22 15:15
	7/15/22 1A.		7-15 1801
	7-15 2105		7/15/22 2300
7/15/22		7/15/22 2350	

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(N2) (rev. 5-JAN-13)

PADEP Short List Analytical Suites per Table III-5:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

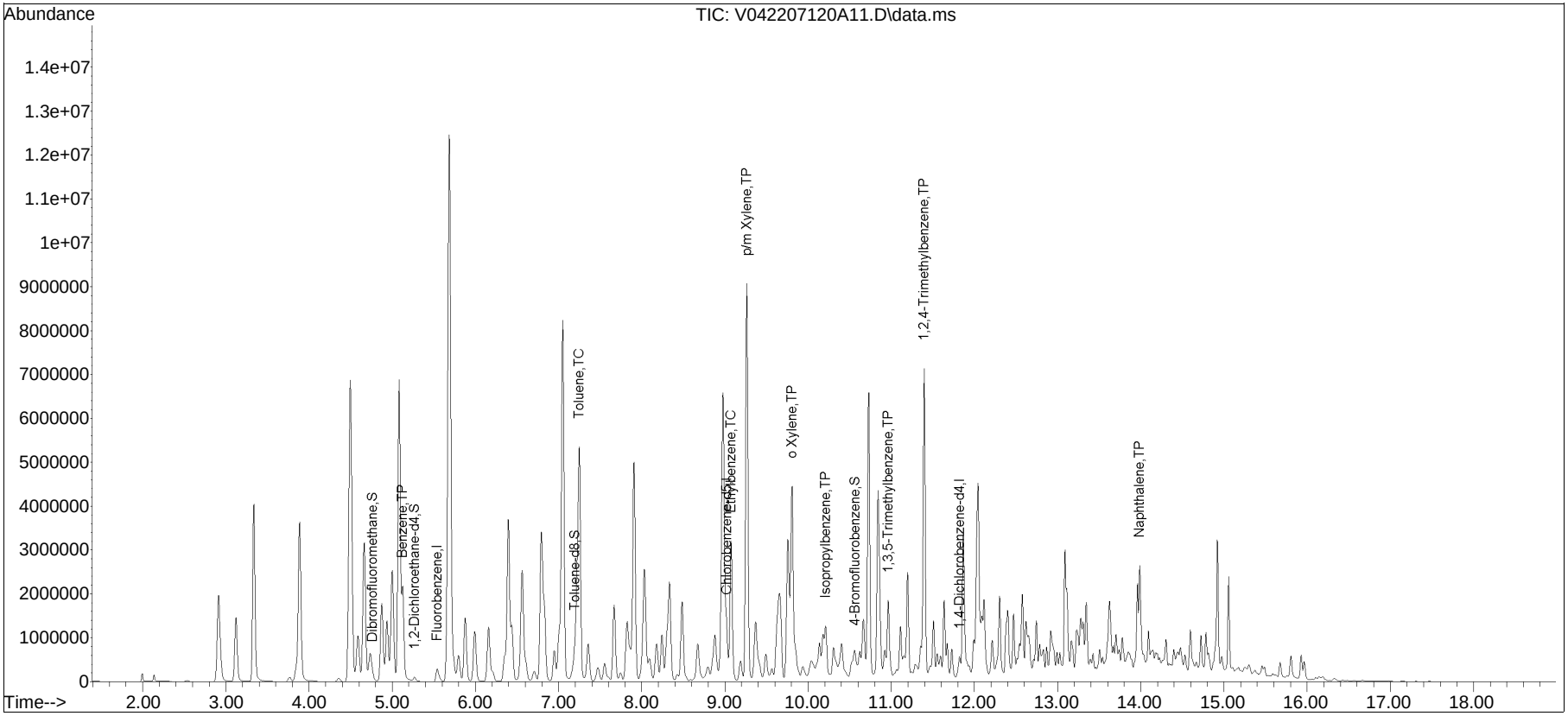
5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA104\2022\2207120A\
Data File : V042207120A11.D
Acq On : 20 Jul 2022 11:29 am
Operator : VOA104:JC
Sample : L2238021-02,31H,5.41,5,0.100,,A,R2F
Misc : WG1665578,ICAL19119
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 21 07:02:24 2022
Quant Method : I:\VOLATILES\VOA104\2022\2207120A\V104_220621A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 22 06:56:43 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list120A\V042207120A01.D•

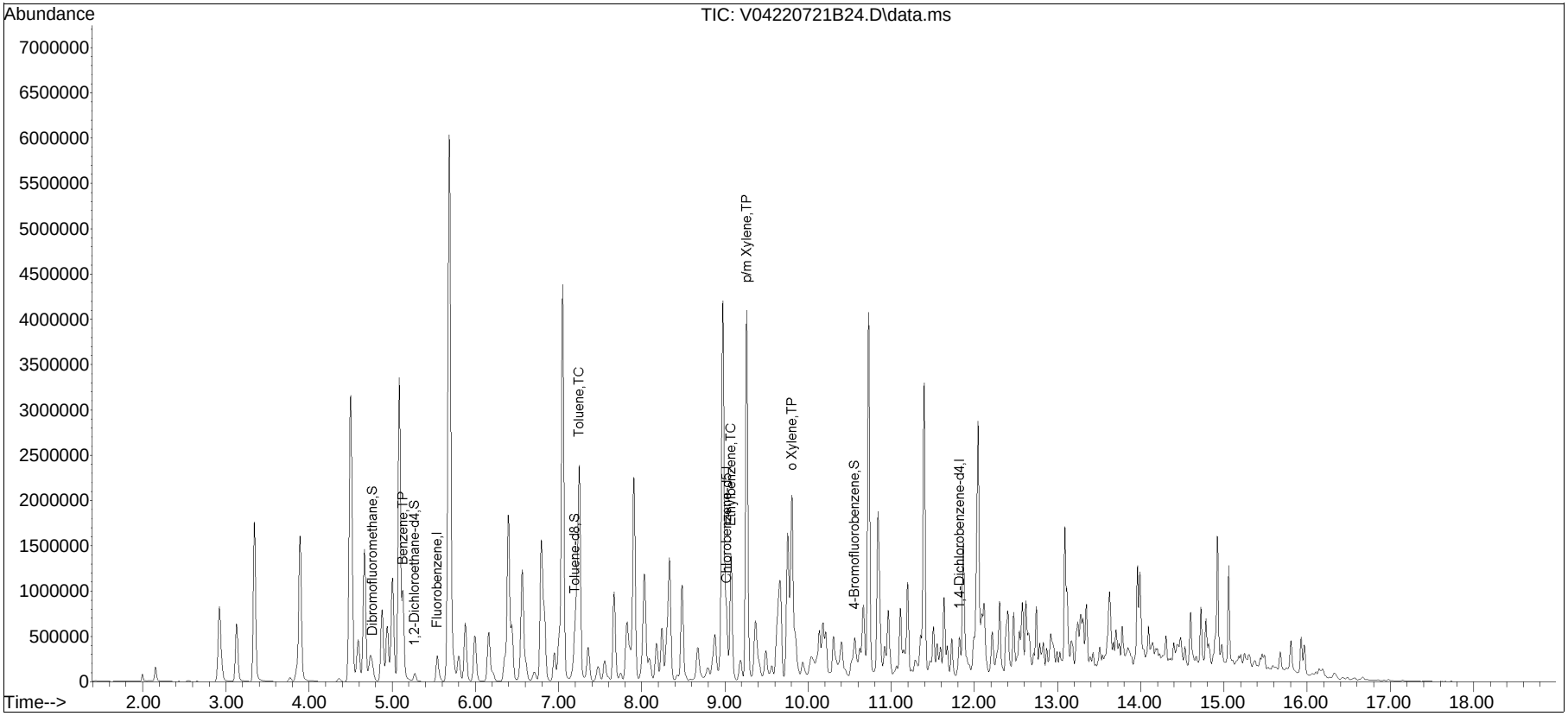


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA104\2022\220721B\
Data File : V04220721B24.D
Acq On : 21 Jul 2022 6:41 pm
Operator : VOA104:AJK
Sample : L2238021-02D,31H,5.42,5,0.050,,A,R2F
Misc : WG1666031,ICAL19119
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Jul 21 23:27:34 2022
Quant Method : I:\VOLATILES\VOA104\2022\220721B\V104_220621A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Jun 22 06:56:43 2022
Response via : Initial Calibration

Sub List : 8260-BTEX - Standard BTEX List20721B\V04220721B04.D•

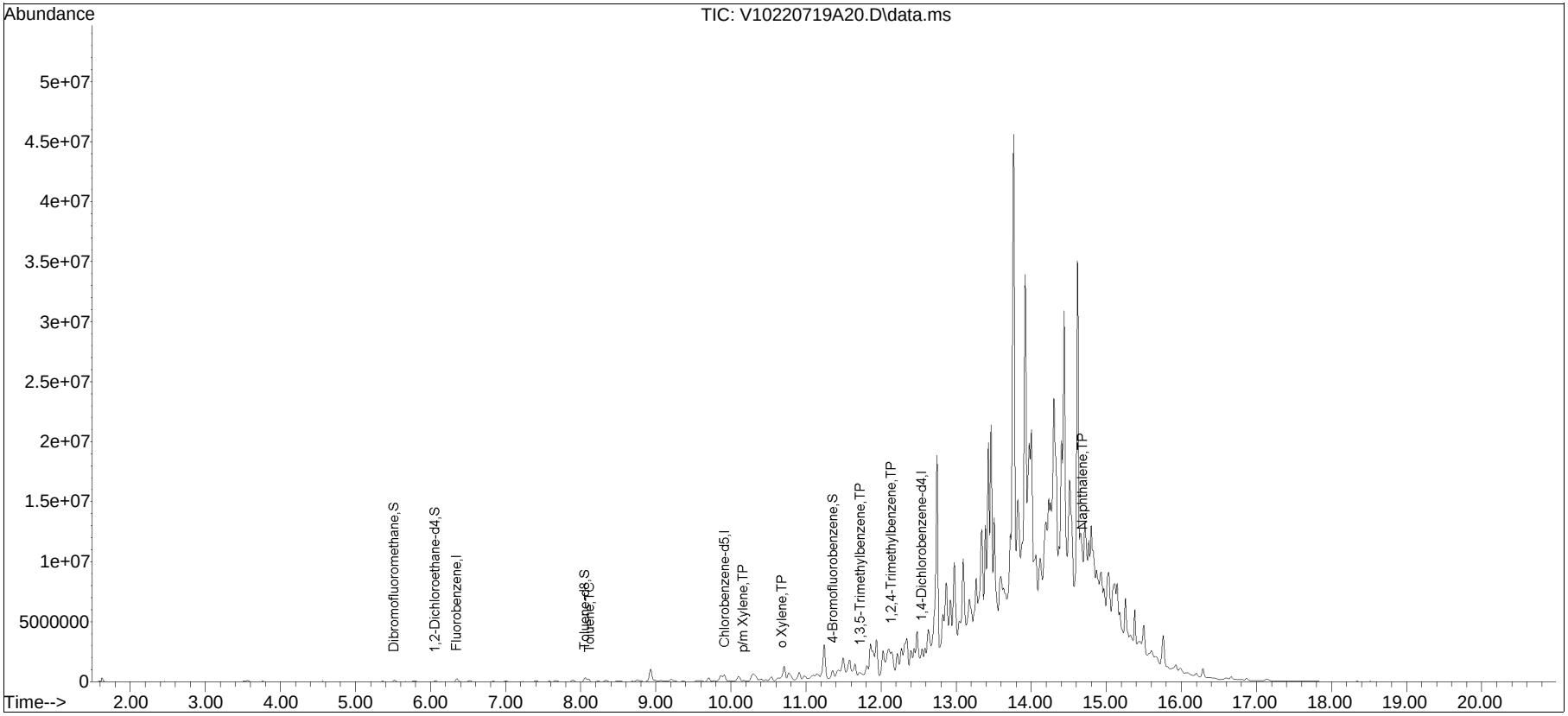


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA110\2022\220719A\
Data File : V10220719A20.D
Acq On : 19 Jul 2022 5:43 pm
Operator : VOA110:AJK
Sample : l2238021-05,31,4.51,5,,b,r2f
Misc : WG1664964,ICAL18890
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Jul 19 18:10:44 2022
Quant Method : I:\VOLATILES\VOA110\2022\220719A\V110_220401N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Mon Apr 04 06:52:50 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list19A\V10220719A01.D•



ANALYTICAL REPORT

Lab Number:	L2238022
Client:	Ransom/Hilco 99 Summer St. Suite 1110 Boston, MA 02110
ATTN:	Joe Jeray
Phone:	(978) 729-3209
Project Name:	PHILADELPHIA REFINERY
Project Number:	200.00135.006
Report Date:	07/22/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238022
Report Date: 07/22/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2238022-01	PB-885-17-SS01	SOIL	PHILADELPHIA, PA	07/15/22 09:00	07/15/22
L2238022-02	PB-885-18-SS01	SOIL	PHILADELPHIA, PA	07/15/22 09:10	07/15/22
L2238022-03	PB-885-19-SS01	SOIL	PHILADELPHIA, PA	07/15/22 09:20	07/15/22
L2238022-04	PB-885-24-SS01	SOIL	PHILADELPHIA, PA	07/15/22 09:30	07/15/22
L2238022-05	PB-886-16-SS01	SOIL	PHILADELPHIA, PA	07/15/22 11:00	07/15/22
L2238022-06	PB-886-17-SS01	SOIL	PHILADELPHIA, PA	07/15/22 11:10	07/15/22
L2238022-07	PB-886-21-SS01	SOIL	PHILADELPHIA, PA	07/15/22 11:20	07/15/22
L2238022-08	PB-886-22-SS01	SOIL	PHILADELPHIA, PA	07/15/22 11:30	07/15/22
L2238022-09	PB-886-23-SS01	SOIL	PHILADELPHIA, PA	07/15/22 11:40	07/15/22
L2238022-10	PB-886-25-SS01	SOIL	PHILADELPHIA, PA	07/15/22 11:50	07/15/22
L2238022-11	DUP-45	SOIL	PHILADELPHIA, PA	07/15/22 00:00	07/15/22
L2238022-12	FB-071522-1	WATER	PHILADELPHIA, PA	07/15/22 14:00	07/15/22

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238022
Project Number:	200.00135.006	**Report Date:**	07/22/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238022
Project Number:	200.00135.006	**Report Date:**	07/22/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Total Metals

The WG1664025-3 MS recovery, performed on L2238022-01, is outside the acceptance criteria for lead (54%). A post digestion spike was performed and yielded an unacceptable recovery for lead (53%). The serial dilution recovery was not applicable; therefore, this element fails the matrix test and the result reported in the native sample should be considered estimated.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 07/22/22

ORGANICS

VOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-01
Client ID: PB-885-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 10:21
Analyst: NLK
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0016	0.00016	1
Benzene	ND		mg/kg	0.00041	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00082	0.00021	1
Toluene	ND		mg/kg	0.00082	0.00044	1
1,2-Dibromoethane	ND		mg/kg	0.00041	0.00024	1
Ethylbenzene	ND		mg/kg	0.00082	0.00012	1
p/m-Xylene	ND		mg/kg	0.0016	0.00046	1
o-Xylene	ND		mg/kg	0.00082	0.00024	1
Xylenes, Total	ND		mg/kg	0.00082	0.00024	1
Isopropylbenzene	ND		mg/kg	0.00082	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0016	0.00016	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0016	0.00027	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-02
Client ID: PB-885-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:10
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 10:52
Analyst: NLK
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	ND		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00090	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00090	0.00026	1
Xylenes, Total	ND		mg/kg	0.00090	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-03
Client ID: PB-885-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:20
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 11:23
Analyst: NLK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00018	1
Benzene	ND		mg/kg	0.00044	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00087	0.00022	1
Toluene	ND		mg/kg	0.00087	0.00047	1
1,2-Dibromoethane	ND		mg/kg	0.00044	0.00026	1
Ethylbenzene	ND		mg/kg	0.00087	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00049	1
o-Xylene	ND		mg/kg	0.00087	0.00025	1
Xylenes, Total	ND		mg/kg	0.00087	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00087	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-04
Client ID: PB-885-24-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 11:55
Analyst: NLK
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0023	0.00023	1
Benzene	ND		mg/kg	0.00058	0.00019	1
1,2-Dichloroethane	ND		mg/kg	0.0012	0.00030	1
Toluene	ND		mg/kg	0.0012	0.00063	1
1,2-Dibromoethane	ND		mg/kg	0.00058	0.00034	1
Ethylbenzene	ND		mg/kg	0.0012	0.00016	1
p/m-Xylene	ND		mg/kg	0.0023	0.00065	1
o-Xylene	ND		mg/kg	0.0012	0.00034	1
Xylenes, Total	ND		mg/kg	0.0012	0.00034	1
Isopropylbenzene	ND		mg/kg	0.0012	0.00013	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0023	0.00022	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0023	0.00039	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-05
Client ID: PB-886-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 12:28
Analyst: NLK
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0017	0.00017	1
Benzene	ND		mg/kg	0.00043	0.00014	1
1,2-Dichloroethane	ND		mg/kg	0.00087	0.00022	1
Toluene	ND		mg/kg	0.00087	0.00047	1
1,2-Dibromoethane	ND		mg/kg	0.00043	0.00025	1
Ethylbenzene	ND		mg/kg	0.00087	0.00012	1
p/m-Xylene	ND		mg/kg	0.0017	0.00049	1
o-Xylene	ND		mg/kg	0.00087	0.00025	1
Xylenes, Total	ND		mg/kg	0.00087	0.00025	1
Isopropylbenzene	ND		mg/kg	0.00087	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0017	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0017	0.00029	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-06
Client ID: PB-886-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:10
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 12:59
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Toluene	ND		mg/kg	0.0010	0.00057	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00031	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.00012	J	mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	0.00082	J	mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	0.0025		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-07
Client ID: PB-886-21-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:20
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 13:30
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00044	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00089	0.00023	1
Toluene	ND		mg/kg	0.00089	0.00048	1
1,2-Dibromoethane	ND		mg/kg	0.00044	0.00026	1
Ethylbenzene	ND		mg/kg	0.00089	0.00012	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00089	0.00026	1
Xylenes, Total	ND		mg/kg	0.00089	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00089	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	94		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-08
Client ID: PB-886-22-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 14:01
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00016	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	96		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-09
Client ID: PB-886-23-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:40
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 14:34
Analyst: AJK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	ND		mg/kg	0.00050	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Toluene	ND		mg/kg	0.0010	0.00054	1
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00056	1
o-Xylene	ND		mg/kg	0.0010	0.00029	1
Xylenes, Total	ND		mg/kg	0.0010	0.00029	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-10
Client ID: PB-886-25-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:50
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 15:06
Analyst: AJK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
Benzene	ND		mg/kg	0.00045	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00090	0.00023	1
Toluene	ND		mg/kg	0.00090	0.00049	1
1,2-Dibromoethane	ND		mg/kg	0.00045	0.00026	1
Ethylbenzene	ND		mg/kg	0.00090	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00050	1
o-Xylene	ND		mg/kg	0.00090	0.00026	1
Xylenes, Total	ND		mg/kg	0.00090	0.00026	1
Isopropylbenzene	ND		mg/kg	0.00090	0.00009	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00017	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	98		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-11
Client ID: DUP-45
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/19/22 15:37
Analyst: AJK
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00019	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00093	0.00024	1
Toluene	ND		mg/kg	0.00093	0.00050	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
Ethylbenzene	ND		mg/kg	0.00093	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00052	1
o-Xylene	ND		mg/kg	0.00093	0.00027	1
Xylenes, Total	ND		mg/kg	0.00093	0.00027	1
Isopropylbenzene	ND		mg/kg	0.00093	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	97		70-130

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-12
Client ID: FB-071522-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 14:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 07/20/22 16:10
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/20/22 13:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-12
Client ID: FB-071522-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 14:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/20/22 14:47
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	125		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	**134**	Q	70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 07/20/22 14:35
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 07/20/22 13:30

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 12 Batch: WG1664686-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/19/22 09:51
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-11 Batch: WG1664964-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Toluene	ND		mg/kg	0.0010	0.00054
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	95		70-130

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/20/22 08:41
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 12 Batch: WG1665694-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	124		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238022

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 12		Batch: WG1664686-2						
1,2-Dibromoethane	93		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238022

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-11 Batch: WG1664964-3 WG1664964-4								
Methyl tert butyl ether	122		119		66-130	2		30
Benzene	110		103		70-130	7		30
1,2-Dichloroethane	102		100		70-130	2		30
Toluene	108		103		70-130	5		30
1,2-Dibromoethane	109		109		70-130	0		30
Ethylbenzene	107		102		70-130	5		30
p/m-Xylene	109		103		70-130	6		30
o-Xylene	108		103		70-130	5		30
Isopropylbenzene	110		103		70-130	7		30
1,3,5-Trimethylbenzene	107		101		70-130	6		30
1,2,4-Trimethylbenzene	108		102		70-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		96		70-130
Toluene-d8	102		102		70-130
4-Bromofluorobenzene	105		105		70-130
Dibromofluoromethane	93		92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238022
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 12 Batch: WG1665694-3 WG1665694-4								
Methyl tert butyl ether	87		94		63-130	8		20
Benzene	110		110		70-130	0		20
1,2-Dichloroethane	100		100		70-130	0		20
Toluene	99		100		70-130	1		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	105		105		70-130	0		20
o-Xylene	100		100		70-130	0		20
Isopropylbenzene	91		92		70-130	1		20
1,3,5-Trimethylbenzene	94		95		64-130	1		20
1,2,4-Trimethylbenzene	93		94		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		102		70-130
Toluene-d8	96		96		70-130
4-Bromofluorobenzene	87		87		70-130
Dibromofluoromethane	110		110		70-130

SEMIVOLATILES

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-01
Client ID: PB-885-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 15:21
Analyst: IM
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	68		30-120
4-Terphenyl-d14	72		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-02
Client ID: PB-885-18-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:10
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 15:45
Analyst: IM
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.021	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.10	0.021	1
Anthracene	ND		mg/kg	0.10	0.034	1
Pyrene	ND		mg/kg	0.10	0.017	1
Benzo(a)anthracene	ND		mg/kg	0.10	0.020	1
Chrysene	ND		mg/kg	0.10	0.018	1
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.043	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	70		23-120
2-Fluorobiphenyl	63		30-120
4-Terphenyl-d14	69		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-03
Client ID: PB-885-19-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:20
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 16:10
Analyst: IM
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	79		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-04
Client ID: PB-885-24-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 09:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 19:00
Analyst: IM
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	87		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-05
Client ID: PB-886-16-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 19:24
Analyst: IM
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.017	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.035	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.020	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.14	0.044	1
Benzo(ghi)perylene	ND		mg/kg	0.14	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-06
Client ID: PB-886-17-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:10
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 19:48
Analyst: IM
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.092	J	mg/kg	0.19	0.023	1
Fluorene	0.046	J	mg/kg	0.19	0.019	1
Phenanthrene	0.13		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.038	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	84		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-07
Client ID: PB-886-21-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:20
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 20:12
Analyst: IM
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.019	1
Phenanthrene	ND		mg/kg	0.12	0.023	1
Anthracene	ND		mg/kg	0.12	0.037	1
Pyrene	ND		mg/kg	0.12	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.047	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	96		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	86		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-08
Client ID: PB-886-22-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 20:37
Analyst: IM
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.023	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	82		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-09
Client ID: PB-886-23-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:40
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 19:01
Analyst: IM
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 23:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.023	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	49		30-120
4-Terphenyl-d14	60		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-10
Client ID: PB-886-25-SS01
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 11:50
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 19:25
Analyst: IM
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 23:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	103		23-120
2-Fluorobiphenyl	56		30-120
4-Terphenyl-d14	64		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-11
Client ID: DUP-45
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/18/22 19:48
Analyst: IM
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 07/16/22 23:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.022	1
Fluorene	ND		mg/kg	0.18	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.022	1
Anthracene	ND		mg/kg	0.11	0.036	1
Pyrene	ND		mg/kg	0.11	0.018	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	108		23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	77		18-120

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-12
Client ID: FB-071522-1
Sample Location: PHILADELPHIA, PA

Date Collected: 07/15/22 14:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/17/22 19:44
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/16/22 08:39

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	26		23-120
2-Fluorobiphenyl	28		15-120
4-Terphenyl-d14	**34**	Q	41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/17/22 16:33
Analyst: RP

Extraction Method: EPA 3510C
Extraction Date: 07/16/22 08:39

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 12 Batch: WG1663655-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	0.03	J	ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	0.02	J	ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	38		23-120
2-Fluorobiphenyl	41		15-120
4-Terphenyl-d14	49		41-149

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/18/22 11:42
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 07/16/22 21:27

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-08 Batch: WG1663763-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.098	0.020
Anthracene	ND		mg/kg	0.098	0.032
Pyrene	ND		mg/kg	0.098	0.016
Benzo(a)anthracene	ND		mg/kg	0.098	0.018
Chrysene	ND		mg/kg	0.098	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.098	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	75		30-120
4-Terphenyl-d14	88		18-120

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/18/22 16:15
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 07/16/22 23:15

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 09-11 Batch: WG1663766-1					
Naphthalene	ND		mg/kg	0.16	0.020
Fluorene	ND		mg/kg	0.16	0.016
Phenanthrene	ND		mg/kg	0.099	0.020
Anthracene	ND		mg/kg	0.099	0.032
Pyrene	ND		mg/kg	0.099	0.016
Benzo(a)anthracene	ND		mg/kg	0.099	0.019
Chrysene	ND		mg/kg	0.099	0.017
Benzo(b)fluoranthene	ND		mg/kg	0.099	0.028
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Benzo(ghi)perylene	ND		mg/kg	0.13	0.019

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	119		23-120
2-Fluorobiphenyl	64		30-120
4-Terphenyl-d14	81		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238022
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 12 Batch: WG1663655-2 WG1663655-3								
Naphthalene	80		69		40-140	15		40
Fluorene	83		73		40-140	13		40
Phenanthrene	84		73		40-140	14		40
Anthracene	85		74		40-140	14		40
Pyrene	92		80		26-127	14		40
Benzo(a)anthracene	84		73		40-140	14		40
Chrysene	87		78		40-140	11		40
Benzo(b)fluoranthene	88		85		40-140	3		40
Benzo(a)pyrene	87		76		40-140	13		40
Benzo(ghi)perylene	97		85		40-140	13		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	40		35		23-120
2-Fluorobiphenyl	42		37		15-120
4-Terphenyl-d14	47		42		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238022

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 Batch: WG1663763-2 WG1663763-3								
Naphthalene	68		62		40-140	9		50
Fluorene	71		64		40-140	10		50
Phenanthrene	66		62		40-140	6		50
Anthracene	69		65		40-140	6		50
Pyrene	74		62		35-142	18		50
Benzo(a)anthracene	71		66		40-140	7		50
Chrysene	71		66		40-140	7		50
Benzo(b)fluoranthene	74		67		40-140	10		50
Benzo(a)pyrene	78		62		40-140	23		50
Benzo(ghi)perylene	66		65		40-140	2		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	76		70		23-120
2-Fluorobiphenyl	71		65		30-120
4-Terphenyl-d14	80		66		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 09-11 Batch: WG1663766-2 WG1663766-3								
Naphthalene	66		56		40-140	16		50
Fluorene	69		61		40-140	12		50
Phenanthrene	68		61		40-140	11		50
Anthracene	70		64		40-140	9		50
Pyrene	67		68		35-142	1		50
Benzo(a)anthracene	69		63		40-140	9		50
Chrysene	68		61		40-140	11		50
Benzo(b)fluoranthene	70		62		40-140	12		50
Benzo(a)pyrene	70		63		40-140	11		50
Benzo(ghi)perylene	69		62		40-140	11		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	99		98		23-120
2-Fluorobiphenyl	64		56		30-120
4-Terphenyl-d14	71		79		18-120

METALS

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-01
Client ID: PB-885-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.53	J	mg/kg	2.21	0.118	1	07/18/22 08:55	07/21/22 08:31	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-02
Client ID: PB-885-18-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:10
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.49	J	mg/kg	2.06	0.110	1	07/18/22 08:55	07/21/22 09:50	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-03
Client ID: PB-885-19-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:20
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.93	J	mg/kg	2.13	0.114	1	07/18/22 08:55	07/21/22 09:54	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-04
Client ID: PB-885-24-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 09:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.63	J	mg/kg	2.16	0.116	1	07/18/22 08:55	07/21/22 09:59	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-05
Client ID: PB-886-16-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.82	J	mg/kg	2.13	0.114	1	07/18/22 08:55	07/21/22 10:04	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-06
Client ID: PB-886-17-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:10
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.80	J	mg/kg	2.27	0.122	1	07/18/22 08:55	07/21/22 10:09	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-07
Client ID: PB-886-21-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:20
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.82	J	mg/kg	2.23	0.120	1	07/18/22 08:55	07/21/22 10:14	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-08
Client ID: PB-886-22-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:30
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.06	J	mg/kg	2.24	0.120	1	07/18/22 08:55	07/21/22 10:51	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-09
Client ID: PB-886-23-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:40
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.95	J	mg/kg	2.21	0.118	1	07/18/22 08:55	07/21/22 10:56	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-10
Client ID: PB-886-25-SS01
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 11:50
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	1.81	J	mg/kg	2.18	0.117	1	07/18/22 08:55	07/21/22 11:01	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-11
Client ID: DUP-45
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	2.24		mg/kg	2.16	0.116	1	07/18/22 08:55	07/21/22 11:06	EPA 3050B	1,6010D	SB

Project Name: PHILADELPHIA REFINERY
Lab Number: L2238022
Project Number: 200.00135.006
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-12
Client ID: FB-071522-1
Sample Location: PHILADELPHIA, PA
Date Collected: 07/15/22 14:00
Date Received: 07/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	07/18/22 13:42	07/19/22 21:02	EPA 3005A	1,6020B	SV

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-11 Batch: WG1664025-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	07/18/22 08:55	07/21/22 08:08	1,6010D	SB

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 12 Batch: WG1664131-1										
Lead, Total	ND		ug/l	1.000	0.3430	1	07/18/22 13:42	07/19/22 18:48	1,6020B	SV

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238022

Report Date: 07/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-11 Batch: WG1664025-2 SRM Lot Number: D113-540								
Lead, Total	93		-		72-128	-		
Total Metals - Mansfield Lab Associated sample(s): 12 Batch: WG1664131-2								
Lead, Total	104		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238022
Report Date: 07/22/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-11 QC Batch ID: WG1664025-3 QC Sample: L2238022-01 Client ID: PB-885-17-SS01												
Lead, Total	1.53J	47.1	25.4	**54**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 12 QC Batch ID: WG1664131-3 QC Sample: L2237200-07 Client ID: MS Sample												
Lead, Total	ND	530	528.2	100		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238022

Report Date: 07/22/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-11 QC Batch ID: WG1664025-4 QC Sample: L2238022-01 Client ID: PB-885-17-SS01						
Lead, Total	1.53J	1.44J	mg/kg	NC		20
Total Metals - Mansfield Lab Associated sample(s): 12 QC Batch ID: WG1664131-4 QC Sample: L2237200-07 Client ID: DUP Sample						
Lead, Total	ND	ND	ug/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-01
Client ID: PB-885-17-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/15/22 09:00
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.1		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-02
Client ID: PB-885-18-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 09:10
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.2		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-03
Client ID: PB-885-19-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 09:20
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.2		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-04
Client ID: PB-885-24-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 09:30
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.7		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-05
Client ID: PB-886-16-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 11:00
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.0		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-06
Client ID: PB-886-17-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 11:10
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.6		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-07
Client ID: PB-886-21-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/15/22 11:20
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.9		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-08
Client ID: PB-886-22-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/15/22 11:30
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.0		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-09
Client ID: PB-886-23-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 11:40
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.6		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-10
Client ID: PB-886-25-SS01
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil
Date Collected: 07/15/22 11:50
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.1		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006
Lab Number: L2238022
Report Date: 07/22/22

SAMPLE RESULTS

Lab ID: L2238022-11
Client ID: DUP-45
Sample Location: PHILADELPHIA, PA
Sample Depth:
Matrix: Soil

Date Collected: 07/15/22 00:00
Date Received: 07/15/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.6		%	0.100	NA	1	-	07/16/22 12:03	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: PHILADELPHIA REFINERY

Project Number: 200.00135.006

Lab Number: L2238022

Report Date: 07/22/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-11 QC Batch ID: WG1663682-1 QC Sample: L2238022-01 Client ID: PB-885-17-SS01						
Solids, Total	87.1	89.0	%	2		20

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238022
Report Date: 07/22/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2238022-01A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2238022-01B	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238022-01C	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238022-01D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2238022-01E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2238022-01F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2238022-02A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2238022-02B	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238022-02C	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238022-02D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2238022-02E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2238022-02F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2238022-03A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2238022-03B	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238022-03C	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238022-03D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2238022-03E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2238022-03F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2238022-04A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2238022-04B	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238022-04C	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2238022-04D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2238022-04E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2238022-04F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2238022-05A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)
L2238022-05B	Vial water preserved	A	NA		2.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238022-05C	Vial water preserved	A	NA		2.7	Y	Absent	16-JUL-22 08:24	PA-8260HLW(14)
L2238022-05D	Plastic 2oz unpreserved for TS	A	NA		2.7	Y	Absent		TS(7)
L2238022-05E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		PB-TI(180)
L2238022-05F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		PA-PAH(14)
L2238022-06A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)
L2238022-06B	Vial water preserved	A	NA		2.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-06C	Vial water preserved	A	NA		2.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-06D	Plastic 2oz unpreserved for TS	A	NA		2.7	Y	Absent		TS(7)
L2238022-06E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		PB-TI(180)
L2238022-06F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		PA-PAH(14)
L2238022-07A	Vial MeOH preserved	A	NA		2.7	Y	Absent		PA-8260HLW(14)
L2238022-07B	Vial water preserved	A	NA		2.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-07C	Vial water preserved	A	NA		2.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-07D	Plastic 2oz unpreserved for TS	A	NA		2.7	Y	Absent		TS(7)
L2238022-07E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.7	Y	Absent		PB-TI(180)
L2238022-07F	Glass 120ml/4oz unpreserved	A	NA		2.7	Y	Absent		PA-PAH(14)
L2238022-08A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2238022-08B	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-08C	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-08D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2238022-08E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2238022-08F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2238022-09A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: PHILADELPHIA REFINERY
Project Number: 200.00135.006

Lab Number: L2238022
Report Date: 07/22/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2238022-09B	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-09C	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-09D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2238022-09E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2238022-09F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2238022-10A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2238022-10B	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-10C	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-10D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2238022-10E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2238022-10F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2238022-11A	Vial MeOH preserved	B	NA		3.7	Y	Absent		PA-8260HLW(14)
L2238022-11B	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-11C	Vial water preserved	B	NA		3.7	Y	Absent	16-JUL-22 08:27	PA-8260HLW(14)
L2238022-11D	Plastic 2oz unpreserved for TS	B	NA		3.7	Y	Absent		TS(7)
L2238022-11E	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.7	Y	Absent		PB-TI(180)
L2238022-11F	Glass 120ml/4oz unpreserved	B	NA		3.7	Y	Absent		PA-PAH(14)
L2238022-12A	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238022-12B	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238022-12C	Vial HCl preserved	A	NA		2.7	Y	Absent		PA-8260(14)
L2238022-12D	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		8011(14)
L2238022-12E	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		8011(14)
L2238022-12F	Amber 250ml unpreserved	A	7	7	2.7	Y	Absent		PA-PAHSIM-LVI(7)
L2238022-12G	Amber 250ml unpreserved	A	7	7	2.7	Y	Absent		PA-PAHSIM-LVI(7)
L2238022-12H	Plastic 250ml HNO3 preserved	A	<2	<2	2.7	Y	Absent		PB-6020T-PPB(180)

*Values in parentheses indicate holding time in days

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238022
Project Number:	200.00135.006	**Report Date:**	07/22/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238022
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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238022
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Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	PHILADELPHIA REFINERY	**Lab Number:**	L2238022
Project Number:	200.00135.006	**Report Date:**	07/22/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 7/16/22

ALPHA Job #: L2238022

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193

Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC

Address: 2127 Hamilton Avenue

Trenton, NJ 08619

Phone: 215-901-4974

Fax:

Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery

Project Location: Philadelphia, PA

Project #: 200.00135.006

Project Manager: William Schmidt

ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
38022-01	PB-SS5-17-5501	7/15/22	900	S	AV	
-02	PB-SS5-18-5501		910			
-03	PB-SS5-19-5501		920			
-04	PB-SS5-24-5501		930			
-05	PB-SS6-16-5501		1100			
-06	PB-SS6-17-5501		1110			
-07	PB-SS6-21-5501		1120			
-08	PB-SS6-22-5501		1130			
-09	PB-SS6-23-5501		1140			
-10	PB-SS6-25-5501	↓	1150			

Container Type	-	-	G	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/15/22 1515		7/15/22 1515
	7/15/22 1800		7/15/22 1800
	7/15/22 2140		7/15/22 2140
	7/15/22	GE AML	7/15/22 2350

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(HC) (rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 7/16/22

ALPHA Job #: L2238022

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: Ransom Consulting, LLC
Address: 2127 Hamilton Avenue
Trenton, NJ 08619
Phone: 215-901-4974
Fax:
Email: William.Schmidt@ransomenv.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Philadelphia Refinery
Project Location: Philadelphia, PA
Project #: 200.00135.006
Project Manager: William Schmidt
ALPHA Quote #: 18599

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 3562

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

Report only attached project-specific analyte list of PADEP Leaded/Unleaded Gasoline and No. 2, 4, 5, and 6 Fuel Oil Shortlist. Run Naphthalene using Method 8270 ONLY!! Email results to edd@terraphase.com, William.Schmidt@ransomenv.com, and jjeray@hilcoglobal.com

ANALYSIS

Short list 1-5

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
38022-11	DUP-45	7/15/22	—	S	ar	
-12	FB-071522-1	7/15/22	1400	W	ar	

Container Type	-	-	G	-	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	7/15/22 15:15		7/15/22 1515
	7/15/22 18:0		7/15/22 1800
	7/15/22		7/16/22 0730

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(I-NJ) (rev. 5-JAN-12)

PADEP Short List Analytical Suites per Table III-5:

1. Leaded Gasoline, Aviation Gasoline and Jet Fuel - benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, lead

2. Unleaded Gasoline - benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

3. Kerosene, Fuel Oil No. 1 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene

4. Diesel Fuel and Fuel Oil No. 2 - benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethyl benzene

5. Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids - benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene

ANALYTICAL REPORT

Lab Number:	L2271577
Client:	Terraphase Engineering Inc. 100 Canal Pointe Boulevard Suite 108 Princeton, NJ 08540
ATTN:	Nick Scala
Phone:	(609) 236-8171
Project Name:	FORMER PHILADELPHIA REFINERY
Project Number:	P044.001.002
Report Date:	12/28/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2271577
Report Date: 12/28/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2271577-01	TG04-MW-02-7.0-7.5	SOIL	AST CLOSURE	12/19/22 12:57	12/20/22
L2271577-02	TG04-MW-02-23.5-24.0	SOIL	AST CLOSURE	12/19/22 14:32	12/20/22
L2271577-03	TG04-MW-01-10.0-10.5	SOIL	AST CLOSURE	12/20/22 09:25	12/20/22
L2271577-04	TG04-MW-01-13.0-13.5	SOIL	AST CLOSURE	12/20/22 09:35	12/20/22
L2271577-05	TB-221220-1	WATER	AST CLOSURE	12/19/22 00:00	12/20/22

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2271577
Project Number:	P044.001.002	**Report Date:**	12/28/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2271577
Project Number:	P044.001.002	**Report Date:**	12/28/22

Case Narrative (continued)

Report Submission

December 28, 2022: This final report includes the results of all requested analyses.

December 28, 2022: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2271577-01: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (144%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 12/28/22

ORGANICS

VOLATILES

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2271577

Project Number: P044.001.002 **Report Date:** 12/28/22

SAMPLE RESULTS

Lab ID: L2271577-01
Client ID: TG04-MW-02-7.0-7.5
Sample Location: AST CLOSURE

Date Collected: 12/19/22 12:57
Date Received: 12/20/22
Field Prep: None

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 12/27/22 23:59
Analyst: NLK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	0.00026	J	mg/kg	0.0022	0.00022	1
Benzene	0.0023		mg/kg	0.00056	0.00018	1
Ethylbenzene	0.028		mg/kg	0.0011	0.00016	1
p/m-Xylene	0.0018	J	mg/kg	0.0022	0.00062	1
o-Xylene	0.00088	J	mg/kg	0.0011	0.00032	1
Xylenes, Total	0.0027	J	mg/kg	0.0011	0.00032	1
Isopropylbenzene	0.015		mg/kg	0.0011	0.00012	1
1,3,5-Trimethylbenzene	0.0059		mg/kg	0.0022	0.00021	1
1,2,4-Trimethylbenzene	0.0016	J	mg/kg	0.0022	0.00037	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	**144**	Q	70-130
Dibromofluoromethane	89		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2271577

Project Number: P044.001.002 **Report Date:** 12/28/22

SAMPLE RESULTS

Lab ID: L2271577-03
Client ID: TG04-MW-01-10.0-10.5
Sample Location: AST CLOSURE

Date Collected: 12/20/22 09:25
Date Received: 12/20/22
Field Prep: None

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 12/22/22 13:33
Analyst: NLK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
Benzene	ND		mg/kg	0.00052	0.00017	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00059	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0021	0.00020	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0021	0.00035	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	92		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2271577

Project Number: P044.001.002 **Report Date:** 12/28/22

SAMPLE RESULTS

Lab ID: L2271577-05
Client ID: TB-221220-1
Sample Location: AST CLOSURE

Date Collected: 12/19/22 00:00
Date Received: 12/20/22
Field Prep: None

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 12/21/22 11:30
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	125		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2271577

Project Number: P044.001.002 **Report Date:** 12/28/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 12/21/22 11:10
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 05 Batch: WG1726471-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	117		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2271577

Project Number: P044.001.002 **Report Date:** 12/28/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 12/22/22 09:41
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03 Batch: WG1727109-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	91		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2271577

Project Number: P044.001.002 **Report Date:** 12/28/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 12/27/22 20:03
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1727950-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	100		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2271577

Report Date: 12/28/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 Batch: WG1726471-3 WG1726471-4								
Methyl tert butyl ether	80		82		63-130	2		20
Benzene	97		100		70-130	3		20
Ethylbenzene	99		100		70-130	1		20
p/m-Xylene	100		105		70-130	5		20
o-Xylene	105		105		70-130	0		20
Isopropylbenzene	96		97		70-130	1		20
1,3,5-Trimethylbenzene	94		97		64-130	3		20
1,2,4-Trimethylbenzene	94		97		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		103		70-130
Toluene-d8	95		97		70-130
4-Bromofluorobenzene	87		88		70-130
Dibromofluoromethane	115		117		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2271577

Report Date: 12/28/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 03 Batch: WG1727109-3 WG1727109-4								
Methyl tert butyl ether	101		95		66-130	6		30
Benzene	104		96		70-130	8		30
Ethylbenzene	106		99		70-130	7		30
p/m-Xylene	108		100		70-130	8		30
o-Xylene	106		98		70-130	8		30
Isopropylbenzene	105		98		70-130	7		30
1,3,5-Trimethylbenzene	105		98		70-130	7		30
1,2,4-Trimethylbenzene	104		98		70-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		97		70-130
Toluene-d8	102		103		70-130
4-Bromofluorobenzene	97		98		70-130
Dibromofluoromethane	94		93		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2271577

Report Date: 12/28/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1727950-3 WG1727950-4								
Methyl tert butyl ether	107		110		66-130	3		30
Benzene	113		114		70-130	1		30
Ethylbenzene	117		118		70-130	1		30
p/m-Xylene	104		105		70-130	1		30
o-Xylene	101		103		70-130	2		30
Isopropylbenzene	104		104		70-130	0		30
1,3,5-Trimethylbenzene	114		114		70-130	0		30
1,2,4-Trimethylbenzene	115		114		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		96		70-130
Toluene-d8	102		101		70-130
4-Bromofluorobenzene	108		108		70-130
Dibromofluoromethane	94		95		70-130

SEMIVOLATILES

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2271577
Project Number: P044.001.002
Report Date: 12/28/22

SAMPLE RESULTS

Lab ID: L2271577-01
Client ID: TG04-MW-02-7.0-7.5
Sample Location: AST CLOSURE

Date Collected: 12/19/22 12:57
Date Received: 12/20/22
Field Prep: None

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 12/22/22 13:22
Analyst: MG
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 12/22/22 01:47

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.20	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	70		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2271577
Project Number: P044.001.002
Report Date: 12/28/22

SAMPLE RESULTS

Lab ID: L2271577-03
Client ID: TG04-MW-01-10.0-10.5
Sample Location: AST CLOSURE

Date Collected: 12/20/22 09:25
Date Received: 12/20/22
Field Prep: None

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 12/22/22 13:46
Analyst: MG
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 12/22/22 01:47

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	76		30-120
4-Terphenyl-d14	66		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2271577
Report Date: 12/28/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270E
Analytical Date: 12/22/22 08:57
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 12/22/22 01:47

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01,03 Batch: WG1726370-1					
Naphthalene	ND		mg/kg	0.16	0.020

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	71		25-120
Phenol-d6	69		10-120
Nitrobenzene-d5	64		23-120
2-Fluorobiphenyl	67		30-120
2,4,6-Tribromophenol	65		10-136
4-Terphenyl-d14	68		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2271577

Report Date: 12/28/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03 Batch: WG1726370-2 WG1726370-3								
Naphthalene	70		72		40-140	3		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	76		78		25-120
Phenol-d6	75		76		10-120
Nitrobenzene-d5	72		73		23-120
2-Fluorobiphenyl	71		73		30-120
2,4,6-Tribromophenol	80		78		10-136
4-Terphenyl-d14	72		75		18-120

METALS

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2271577
Project Number: P044.001.002
Report Date: 12/28/22

SAMPLE RESULTS

Lab ID: L2271577-01
Client ID: TG04-MW-02-7.0-7.5
Sample Location: AST CLOSURE
Date Collected: 12/19/22 12:57
Date Received: 12/20/22
Field Prep: None

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	7.50		mg/kg	2.25	0.120	1	12/21/22 14:57	12/21/22 20:20	EPA 3050B	1,6010D	DHL

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2271577
Project Number: P044.001.002
Report Date: 12/28/22

SAMPLE RESULTS

Lab ID: L2271577-03
Client ID: TG04-MW-01-10.0-10.5
Sample Location: AST CLOSURE
Date Collected: 12/20/22 09:25
Date Received: 12/20/22
Field Prep: None

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	9.99		mg/kg	2.27	0.122	1	12/21/22 14:57	12/21/22 20:25	EPA 3050B	1,6010D	DHL

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2271577
Report Date: 12/28/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01,03 Batch: WG1726072-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	12/21/22 14:57	12/21/22 20:05	1,6010D	DHL

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2271577

Report Date: 12/28/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03 Batch: WG1726072-2 SRM Lot Number: D116-540								
Lead, Total	99		-		83-117	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2271577
Report Date: 12/28/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03 QC Batch ID: WG1726072-3 QC Sample: L2271544-01 Client ID: MS Sample												
Lead, Total	12.1	54.8	61.1	89		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2271577

Report Date: 12/28/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03 QC Batch ID: WG1726072-4 QC Sample: L2271544-01 Client ID: DUP Sample						
Lead, Total	12.1	13.1	mg/kg	8		20

INORGANICS
&
MISCELLANEOUS

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2271577
Report Date: 12/28/22

SAMPLE RESULTS

Lab ID: L2271577-01
Client ID: TG04-MW-02-7.0-7.5
Sample Location: AST CLOSURE
Sample Depth:
Matrix: Soil
Date Collected: 12/19/22 12:57
Date Received: 12/20/22
Field Prep: None

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.7		%	0.100	NA	1	-	12/21/22 09:49	121,2540G	RI

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2271577
Report Date: 12/28/22

SAMPLE RESULTS

Lab ID: L2271577-03
Client ID: TG04-MW-01-10.0-10.5
Sample Location: AST CLOSURE
Sample Depth:
Matrix: Soil
Date Collected: 12/20/22 09:25
Date Received: 12/20/22
Field Prep: None

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.9		%	0.100	NA	1	-	12/21/22 09:49	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2271577

Report Date: 12/28/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1726000-1 QC Sample: L2271536-01 Client ID: DUP Sample						
Solids, Total	86.4	85.5	%	1		20

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2271577
Report Date: 12/28/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2271577-01A	5 gram Encore Sampler	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2271577-01B	5 gram Encore Sampler	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2271577-01C	5 gram Encore Sampler	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2271577-01D	Plastic 2oz unpreserved for TS	A	NA		4.0	Y	Absent		PB-TI(180)
L2271577-01E	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		TS(7),PA-PAH(14)
L2271577-01X	Vial MeOH preserved split	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2271577-01Y	Vial Water preserved split	A	NA		4.0	Y	Absent	21-DEC-22 10:51	PA-8260HLW(14)
L2271577-01Z	Vial Water preserved split	A	NA		4.0	Y	Absent	21-DEC-22 10:51	PA-8260HLW(14)
L2271577-02A	5 gram Encore Sampler	A	NA		4.0	Y	Absent		HOLD-8260HLW(14)
L2271577-02B	5 gram Encore Sampler	A	NA		4.0	Y	Absent		HOLD-8260HLW(14)
L2271577-02C	5 gram Encore Sampler	A	NA		4.0	Y	Absent		HOLD-8260HLW(14)
L2271577-02D	Plastic 2oz unpreserved for TS	A	NA		4.0	Y	Absent		HOLD-METAL(180)
L2271577-02E	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L2271577-02X	Vial MeOH preserved split	A	NA		4.0	Y	Absent		HOLD-8260HLW(14)
L2271577-02Y	Vial Water preserved split	A	NA		4.0	Y	Absent	21-DEC-22 10:51	HOLD-8260HLW(14)
L2271577-02Z	Vial Water preserved split	A	NA		4.0	Y	Absent	21-DEC-22 10:51	HOLD-8260HLW(14)
L2271577-03A	5 gram Encore Sampler	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2271577-03B	5 gram Encore Sampler	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2271577-03C	5 gram Encore Sampler	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2271577-03D	Plastic 2oz unpreserved for TS	A	NA		4.0	Y	Absent		PB-TI(180)
L2271577-03E	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		TS(7),PA-PAH(14)
L2271577-03X	Vial MeOH preserved split	A	NA		4.0	Y	Absent		PA-8260HLW(14)
L2271577-03Y	Vial Water preserved split	A	NA		4.0	Y	Absent	21-DEC-22 10:51	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2271577
Report Date: 12/28/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2271577-03Z	Vial Water preserved split	A	NA		4.0	Y	Absent	21-DEC-22 10:51	PA-8260HLW(14)
L2271577-04A	5 gram Encore Sampler	A	NA		4.0	Y	Absent		HOLD-8260HLW(14)
L2271577-04B	5 gram Encore Sampler	A	NA		4.0	Y	Absent		HOLD-8260HLW(14)
L2271577-04C	5 gram Encore Sampler	A	NA		4.0	Y	Absent		HOLD-8260HLW(14)
L2271577-04D	Plastic 2oz unpreserved for TS	A	NA		4.0	Y	Absent		HOLD-METAL(180)
L2271577-04E	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L2271577-04X	Vial MeOH preserved split	A	NA		4.0	Y	Absent		HOLD-8260HLW(14)
L2271577-04Y	Vial Water preserved split	A	NA		4.0	Y	Absent	21-DEC-22 10:51	HOLD-8260HLW(14)
L2271577-04Z	Vial Water preserved split	A	NA		4.0	Y	Absent	21-DEC-22 10:51	HOLD-8260HLW(14)
L2271577-05A	Vial HCl preserved	A	NA		4.0	Y	Absent		PA-8260(14)
L2271577-05B	Vial HCl preserved	A	NA		4.0	Y	Absent		PA-8260(14)

*Values in parentheses indicate holding time in days

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2271577
Project Number:	P044.001.002	**Report Date:**	12/28/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2271577
Project Number:	P044.001.002	**Report Date:**	12/28/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2271577
Project Number:	P044.001.002	**Report Date:**	12/28/22

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2271577
Project Number:	P044.001.002	**Report Date:**	12/28/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE ____ OF ____

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/21/22

ALPHA Job #: L2271577

Client Information

Client: Tetra Tech Engineering
Address: 1100 E Hector St
Conshohocken, PA 19428
Phone: 215-297-3502
Fax:
Email: nick.scala@tetratech.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Former Philadelphia Refinery AST Closure
Project Location:
Project #: D044.001.002
Project Manager: Nick Scala
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☑ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program	Criteria

Other Project Specific Requirements/Comments/Detection Limits:
CDD@tetratech.com, Equis Format CDD
Use volume from SVOC jar to analyze for lead

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	8260-Benzene, Chloroform, Methylene Chloride, 1,2,4-TMB, 1,3,5-TMB, Xylenes (Total)	8270-1,4-Dioxane	6010-Lead	Sample Specific Comments
71577-01	T604-MW-02-7.0-7.5	12/19/22	1257	SO	SMM	X	X	X	Analyze
-02	T604-MW-02-23.5-24.0	12/19/22	1432	SO	SMM	H	H	H	Hold
-03	T604-MW-01-10.0-10.5	12/20/22	925	SO	SMM	X	X	X	Analyze
-04	T604-MW-01-13.0-13.5	12/20/22	935	SO	SMM	H	H	H	Hold
-05	TB-221220-1	12/20/22	1049	TB	SMM	X			Analyze

SAMPLE HANDLING
Filtration
☐ Done ☐ Not needed ☐ Lab to do
Preservation
☐ Lab to do (Please specify below)

TOTAL # BOTTLES

Container Type	
Preservative	

Relinquished By:	Date/Time	Received By:	Date/Time
	12/20/22 1425		12/20/22 1425
	12/21/22 1800		12/20/22 1800
	12/20/22 2100		12-20-22 2100
	12/21/22 0200		

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

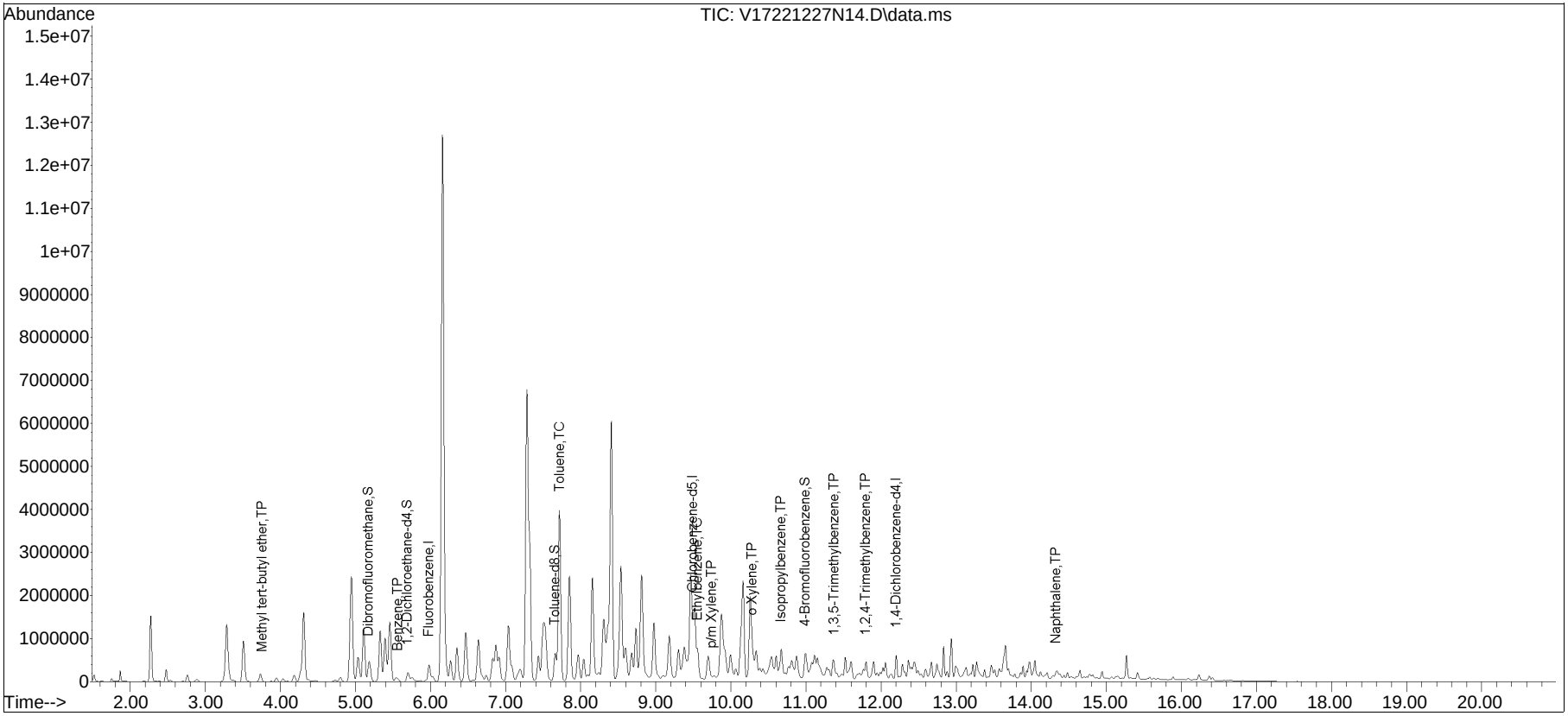
FORM NO: 01-01 (rev. 14-OCT-07)

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA117\2022\221227N\
Data File : V17221227N14.D
Acq On : 27 Dec 2022 11:59 pm
Operator : VOA117:NLK
Sample : l2271577-01,31,5.38,5,,z,r2f
Misc : WG1727950,ICAL19514
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Dec 28 07:30:13 2022
Quant Method : I:\VOLATILES\VOA117\2022\221227N\V117_221121N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Nov 22 14:12:03 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list27N\V17221227N01.D•



ANALYTICAL REPORT

Lab Number:	L2300364
Client:	Terraphase Engineering Inc. 1100 East Hector Street Suite 416 Conshohocken, PA 19428
ATTN:	Nick Scala
Phone:	(215) 297-3502
Project Name:	FORMER PHILADELPHIA REFINERY
Project Number:	P044.001.002
Report Date:	01/06/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300364
Report Date: 01/06/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2300364-01	TG04-MW-03-230104	WATER	3144 W PASSYUNK AVE.	01/04/23 09:40	01/04/23
L2300364-02	TG04-MW-03-230104D	WATER	3144 W PASSYUNK AVE.	01/04/23 09:40	01/04/23
L2300364-03	TG07-MW-02-230104	WATER	3144 W PASSYUNK AVE.	01/04/23 13:20	01/04/23
L2300364-04	TB-230104-2	WATER	3144 W PASSYUNK AVE.	01/04/23 00:00	01/04/23
L2300364-05	FB-230104-2	WATER	3144 W PASSYUNK AVE.	01/04/23 11:10	01/04/23
L2300364-06	TG07-MW-03-230104	WATER	3144 W PASSYUNK AVE.	01/04/23 14:05	01/04/23

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2300364
Project Number:	P044.001.002	**Report Date:**	01/06/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2300364
Project Number:	P044.001.002	**Report Date:**	01/06/23

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

The analyses performed were specified by the client.

Volatile Organics

L2300364-03 and WG1730461-6/-7: The pH was greater than two; however, the sample was analyzed within the method required holding time.

Microextractables

The WG1730299-2 LCS recovery for 1,2-dibromoethane (130%), associated with L2300364-01 through -06, is outside Alpha's acceptance criteria, but within the acceptance criteria specified in the method.

The WG1730299-4 MSD recovery for 1,2-dibromoethane (125%), performed on L2300364-03, is outside Alpha's acceptance criteria, but within the acceptance criteria specified in the method.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cristin Walker

Title: Technical Director/Representative Date: 01/06/23

ORGANICS

VOLATILES

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300364
Report Date: 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-01
Client ID: TG04-MW-03-230104
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/04/23 09:40
Date Received: 01/04/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 01/05/23 12:32
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 01/05/23 10:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300364

Project Number: P044.001.002 **Report Date:** 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-01
Client ID: TG04-MW-03-230104
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/04/23 09:40
Date Received: 01/04/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 01/05/23 11:27
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	98		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300364
Project Number: P044.001.002
Report Date: 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-02
Client ID: TG04-MW-03-230104D
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/04/23 09:40
Date Received: 01/04/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 01/05/23 12:40
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 01/05/23 10:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300364

Project Number: P044.001.002 **Report Date:** 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-02 Date Collected: 01/04/23 09:40
Client ID: TG04-MW-03-230104D Date Received: 01/04/23
Sample Location: 3144 W PASSYUNK AVE. Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 01/05/23 11:53
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	99		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300364
Project Number: P044.001.002
Report Date: 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-03
Client ID: TG07-MW-02-230104
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/04/23 13:20
Date Received: 01/04/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 01/05/23 12:49
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 01/05/23 10:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300364

Project Number: P044.001.002 **Report Date:** 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-03 Date Collected: 01/04/23 13:20
Client ID: TG07-MW-02-230104 Date Received: 01/04/23
Sample Location: 3144 W PASSYUNK AVE. Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 01/05/23 12:18
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	0.36	J	ug/l	1.0	0.17	1
Benzene	17		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	1.4		ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	0.42	J	ug/l	0.50	0.17	1
p/m-Xylene	0.73	J	ug/l	1.0	0.33	1
o-Xylene	0.80	J	ug/l	1.0	0.39	1
Xylenes, Total	1.5	J	ug/l	1.0	0.33	1
Isopropylbenzene	67		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	0.24	J	ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	0.50	J	ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	94		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300364
Project Number: P044.001.002
Report Date: 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-04
Client ID: TB-230104-2
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/04/23 00:00
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 01/05/23 12:57
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 01/05/23 10:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300364

Project Number: P044.001.002 **Report Date:** 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-04 Date Collected: 01/04/23 00:00
Client ID: TB-230104-2 Date Received: 01/04/23
Sample Location: 3144 W PASSYUNK AVE. Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 01/05/23 10:35
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	98		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300364
Report Date: 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-05
Client ID: FB-230104-2
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/04/23 11:10
Date Received: 01/04/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 01/05/23 13:05
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 01/05/23 10:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300364

Project Number: P044.001.002 **Report Date:** 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-05 Date Collected: 01/04/23 11:10
Client ID: FB-230104-2 Date Received: 01/04/23
Sample Location: 3144 W PASSYUNK AVE. Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 01/05/23 11:01
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	98		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300364
Report Date: 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-06
Client ID: TG07-MW-03-230104
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/04/23 14:05
Date Received: 01/04/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 01/05/23 13:13
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 01/05/23 10:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300364

Project Number: P044.001.002 **Report Date:** 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-06 Date Collected: 01/04/23 14:05
Client ID: TG07-MW-03-230104 Date Received: 01/04/23
Sample Location: 3144 W PASSYUNK AVE. Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 01/05/23 12:45
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	0.36	J	ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	0.23	J	ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	0.67	J	ug/l	1.0	0.33	1
o-Xylene	0.55	J	ug/l	1.0	0.39	1
Xylenes, Total	1.2	J	ug/l	1.0	0.33	1
Isopropylbenzene	4.0		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	3.4		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	95		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300364
Report Date: 01/06/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 01/05/23 11:42
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 01/05/23 10:44

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01-06 Batch: WG1730299-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300364

Project Number: P044.001.002 **Report Date:** 01/06/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 01/05/23 09:43
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-06 Batch: WG1730461-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
1,2-Dibromoethane	ND		ug/l	2.0	0.19
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300364

Report Date: 01/06/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 01-06 Batch: WG1730299-2								
1,2-Dibromoethane	**130**	Q	-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300364

Report Date: 01/06/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1730461-3 WG1730461-4								
Methyl tert butyl ether	97		95		63-130	2		20
Benzene	110		110		70-130	0		20
1,2-Dichloroethane	100		100		70-130	0		20
Toluene	110		100		70-130	10		20
1,2-Dibromoethane	100		100		70-130	0		20
Ethylbenzene	110		100		70-130	10		20
p/m-Xylene	110		105		70-130	5		20
o-Xylene	105		105		70-130	0		20
Isopropylbenzene	110		110		70-130	0		20
1,3,5-Trimethylbenzene	110		110		64-130	0		20
1,2,4-Trimethylbenzene	110		100		70-130	10		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		98		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	96		96		70-130
Dibromofluoromethane	98		96		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300364

Report Date: 01/06/23

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*	*Column*
Microextractables by GC - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1730299-3 WG1730299-4 QC Sample: L2300364-03 Client ID: TG07-MW-02-230104													
1,2-Dibromoethane	ND	0.247	0.276	112		0.314	**125**	Q	80-120	13		20	A

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300364

Report Date: 01/06/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1730461-6 WG1730461-7 QC Sample: L2300364-03 Client ID: TG07-MW-02-230104												
Methyl tert butyl ether	0.36J	10	9.7	97		9.8	98		63-130	1		20
Benzene	17	10	27	100		27	100		70-130	0		20
1,2-Dichloroethane	ND	10	10	100		10	100		70-130	0		20
Toluene	1.4	10	12	106		12	106		70-130	0		20
1,2-Dibromoethane	ND	10	10	100		10	100		70-130	0		20
Ethylbenzene	0.42J	10	11	110		11	110		70-130	0		20
p/m-Xylene	0.73J	20	22	110		22	110		70-130	0		20
o-Xylene	0.80J	20	22	110		22	110		70-130	0		20
Isopropylbenzene	67	10	72	**50**	Q	72	**50**	Q	70-130	0		20
1,3,5-Trimethylbenzene	0.24J	10	11	110		11	110		64-130	0		20
1,2,4-Trimethylbenzene	0.50J	10	11	110		11	110		70-130	0		20

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		97		70-130
4-Bromofluorobenzene	112		113		70-130
Dibromofluoromethane	95		94		70-130
Toluene-d8	102		102		70-130

SEMIVOLATILES

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300364
Project Number: P044.001.002
Report Date: 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-01
Client ID: TG04-MW-03-230104
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/04/23 09:40
Date Received: 01/04/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 01/05/23 15:25
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 01/05/23 05:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	91		23-120
2-Fluorobiphenyl	69		15-120
4-Terphenyl-d14	74		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300364
Project Number: P044.001.002
Report Date: 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-02
Client ID: TG04-MW-03-230104D
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/04/23 09:40
Date Received: 01/04/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 01/05/23 15:42
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 01/05/23 05:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.03	J	ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	100		23-120
2-Fluorobiphenyl	76		15-120
4-Terphenyl-d14	78		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300364
Report Date: 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-03
Client ID: TG07-MW-02-230104
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/04/23 13:20
Date Received: 01/04/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 01/05/23 15:09
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 01/05/23 05:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.90		ug/l	0.10	0.05	1
Fluorene	2.2		ug/l	0.10	0.01	1
Phenanthrene	1.8		ug/l	0.05	0.02	1
Anthracene	0.24		ug/l	0.10	0.01	1
Pyrene	0.36		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.11		ug/l	0.05	0.02	1
Chrysene	0.07	J	ug/l	0.10	0.01	1
Benzo(b)fluoranthene	0.07		ug/l	0.05	0.01	1
Benzo(a)pyrene	0.07	J	ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	0.04	J	ug/l	0.10	0.01	1
Benzo(ghi)perylene	0.04	J	ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	68		15-120
4-Terphenyl-d14	60		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300364
Project Number: P044.001.002
Report Date: 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-05
Client ID: FB-230104-2
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/04/23 11:10
Date Received: 01/04/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 01/05/23 15:58
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 01/05/23 05:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.09	J	ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.04	J	ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	92		23-120
2-Fluorobiphenyl	71		15-120
4-Terphenyl-d14	79		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300364
Report Date: 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-06
Client ID: TG07-MW-03-230104
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/04/23 14:05
Date Received: 01/04/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 01/05/23 16:14
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 01/05/23 05:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.13		ug/l	0.10	0.05	1
Fluorene	0.58		ug/l	0.10	0.01	1
Phenanthrene	0.63		ug/l	0.05	0.02	1
Anthracene	0.10		ug/l	0.10	0.01	1
Pyrene	0.11		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.04	J	ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	62		15-120
4-Terphenyl-d14	60		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300364
Report Date: 01/06/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270E-SIM
Analytical Date: 01/05/23 14:20
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 01/05/23 05:54

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-03,05-06 Batch: WG1730130-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	0.03	J	ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	62		15-120
4-Terphenyl-d14	67		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300364
Report Date: 01/06/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-03,05-06 Batch: WG1730130-2 WG1730130-3								
Naphthalene	67		67		40-140	0		40
Fluorene	68		70		40-140	3		40
Phenanthrene	63		66		40-140	5		40
Anthracene	70		72		40-140	3		40
Pyrene	75		78		26-127	4		40
Benzo(a)anthracene	70		78		40-140	11		40
Chrysene	66		66		40-140	0		40
Benzo(b)fluoranthene	73		77		40-140	5		40
Benzo(a)pyrene	75		80		40-140	6		40
Indeno(1,2,3-cd)pyrene	77		80		40-140	4		40
Benzo(ghi)perylene	67		71		40-140	6		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	92		91		23-120
2-Fluorobiphenyl	68		69		15-120
4-Terphenyl-d14	73		78		41-149

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300364

Report Date: 01/06/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-03,05-06 QC Batch ID: WG1730130-4 WG1730130-5 QC Sample: L2300364-03 Client ID: TG07-MW-02-230104												
Naphthalene	0.90	3.64	3.0	58		3.5	72		40-140	15		40
Fluorene	2.2	3.64	4.4	61		4.3	58		40-140	2		40
Phenanthrene	1.8	3.64	4.0	61		3.8	55		40-140	5		40
Anthracene	0.24	3.64	2.6	65		2.6	65		40-140	0		40
Pyrene	0.36	3.64	3.0	73		2.9	70		26-127	3		40
Benzo(a)anthracene	0.11	3.64	2.5	66		2.5	66		40-140	0		40
Chrysene	0.07J	3.64	2.3	63		2.2	61		40-140	4		40
Benzo(b)fluoranthene	0.07	3.64	2.5	67		2.6	70		40-140	4		40
Benzo(a)pyrene	0.07J	3.64	2.5	69		2.5	69		40-140	0		40
Indeno(1,2,3-cd)pyrene	0.04J	3.64	2.3	63		2.3	63		40-140	0		40
Benzo(ghi)perylene	0.04J	3.64	2.1	58		2.0	55		40-140	5		40

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2-Fluorobiphenyl	66		67		15-120
4-Terphenyl-d14	66		64		41-149
Nitrobenzene-d5	87		89		23-120

METALS

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300364
Project Number: P044.001.002
Report Date: 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-01
Client ID: TG04-MW-03-230104
Sample Location: 3144 W PASSYUNK AVE.
Date Collected: 01/04/23 09:40
Date Received: 01/04/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	01/05/23 08:56	01/05/23 16:09	EPA 3005A	1,6020B	SV

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300364
Project Number: P044.001.002
Report Date: 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-02
Client ID: TG04-MW-03-230104D
Sample Location: 3144 W PASSYUNK AVE.
Date Collected: 01/04/23 09:40
Date Received: 01/04/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	01/05/23 08:56	01/05/23 17:06	EPA 3005A	1,6020B	SV

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300364
Project Number: P044.001.002
Report Date: 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-03
Client ID: TG07-MW-02-230104
Sample Location: 3144 W PASSYUNK AVE.
Date Collected: 01/04/23 13:20
Date Received: 01/04/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	7.913		ug/l	1.000	0.3430	1	01/05/23 08:56	01/05/23 17:01	EPA 3005A	1,6020B	SV

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300364
Report Date: 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-05
Client ID: FB-230104-2
Sample Location: 3144 W PASSYUNK AVE.
Sample Depth:
Matrix: Water

Date Collected: 01/04/23 11:10
Date Received: 01/04/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	01/05/23 08:56	01/05/23 15:25	EPA 3005A	1,6020B	SV

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300364
Project Number: P044.001.002
Report Date: 01/06/23

SAMPLE RESULTS

Lab ID: L2300364-06
Client ID: TG07-MW-03-230104
Sample Location: 3144 W PASSYUNK AVE.
Date Collected: 01/04/23 14:05
Date Received: 01/04/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	01/05/23 08:56	01/05/23 17:11	EPA 3005A	1,6020B	SV

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300364
Report Date: 01/06/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01-03,05-06 Batch: WG1730153-1										
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	01/05/23 08:56	01/05/23 14:24	1,6020B	SV

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300364

Report Date: 01/06/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03,05-06 Batch: WG1730153-2								
Lead, Dissolved	97		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300364
Report Date: 01/06/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03,05-06 QC Batch ID: WG1730153-3 WG1730153-4 QC Sample: L2300364-03 Client ID: TG07-MW-02-230104												
Lead, Dissolved	7.913	530	528.9	98		518.5	96		75-125	2		20

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300364
Report Date: 01/06/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2300364-01A	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-01B	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-01C	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-01D	Vial Na2S2O3 preserved	A	NA		3.9	Y	Absent		8011(14)
L2300364-01E	Vial Na2S2O3 preserved	A	NA		3.9	Y	Absent		8011(14)
L2300364-01F	Plastic 250ml HNO3 preserved	A	<2	<2	3.9	Y	Absent		PB-6020S-PPB(180)
L2300364-01G	Amber 250ml unpreserved	A	7	7	3.9	Y	Absent		PA-PAHSIM-LVI(7)
L2300364-01H	Amber 250ml unpreserved	A	7	7	3.9	Y	Absent		PA-PAHSIM-LVI(7)
L2300364-02A	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-02B	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-02C	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-02D	Vial Na2S2O3 preserved	A	NA		3.9	Y	Absent		8011(14)
L2300364-02E	Vial Na2S2O3 preserved	A	NA		3.9	Y	Absent		8011(14)
L2300364-02F	Plastic 250ml HNO3 preserved	A	<2	<2	3.9	Y	Absent		PB-6020S-PPB(180)
L2300364-02G	Amber 250ml unpreserved	A	7	7	3.9	Y	Absent		PA-PAHSIM-LVI(7)
L2300364-02H	Amber 250ml unpreserved	A	7	7	3.9	Y	Absent		PA-PAHSIM-LVI(7)
L2300364-03A	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-03A1	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-03A2	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-03B	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-03B1	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-03B2	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-03C	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)

*Values in parentheses indicate holding time in days

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300364
Report Date: 01/06/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2300364-03C1	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-03C2	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-03D	Vial Na2S2O3 preserved	A	NA		3.9	Y	Absent		8011(14)
L2300364-03D1	Vial Na2S2O3 preserved	A	NA		3.9	Y	Absent		8011(14)
L2300364-03D2	Vial Na2S2O3 preserved	A	NA		3.9	Y	Absent		8011(14)
L2300364-03E	Vial Na2S2O3 preserved	A	NA		3.9	Y	Absent		8011(14)
L2300364-03E1	Vial Na2S2O3 preserved	A	NA		3.9	Y	Absent		8011(14)
L2300364-03E2	Vial Na2S2O3 preserved	A	NA		3.9	Y	Absent		8011(14)
L2300364-03F	Plastic 250ml HNO3 preserved	A	<2	<2	3.9	Y	Absent		PB-6020S-PPB(180)
L2300364-03F1	Plastic 250ml HNO3 preserved	A	<2	<2	3.9	Y	Absent		PB-6020S-PPB(180)
L2300364-03F2	Plastic 250ml HNO3 preserved	A	<2	<2	3.9	Y	Absent		PB-6020S-PPB(180)
L2300364-03G	Amber 250ml unpreserved	A	7	7	3.9	Y	Absent		PA-PAHSIM-LVI(7)
L2300364-03G1	Amber 250ml unpreserved	A	7	7	3.9	Y	Absent		PA-PAHSIM-LVI(7)
L2300364-03G2	Amber 250ml unpreserved	A	7	7	3.9	Y	Absent		PA-PAHSIM-LVI(7)
L2300364-03H	Amber 250ml unpreserved	A	7	7	3.9	Y	Absent		PA-PAHSIM-LVI(7)
L2300364-03H1	Amber 250ml unpreserved	A	7	7	3.9	Y	Absent		PA-PAHSIM-LVI(7)
L2300364-03H2	Amber 250ml unpreserved	A	7	7	3.9	Y	Absent		PA-PAHSIM-LVI(7)
L2300364-04A	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-04B	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-04C	Vial Na2S2O3 preserved	A	NA		3.9	Y	Absent		8011(14)
L2300364-04D	Vial Na2S2O3 preserved	A	NA		3.9	Y	Absent		8011(14)
L2300364-05A	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-05B	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-05C	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-05D	Vial Na2S2O3 preserved	A	NA		3.9	Y	Absent		8011(14)
L2300364-05E	Vial Na2S2O3 preserved	A	NA		3.9	Y	Absent		8011(14)
L2300364-05F	Plastic 250ml HNO3 preserved	A	<2	<2	3.9	Y	Absent		PB-6020S-PPB(180)
L2300364-05G	Amber 250ml unpreserved	A	7	7	3.9	Y	Absent		PA-PAHSIM-LVI(7)

*Values in parentheses indicate holding time in days

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300364
Report Date: 01/06/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2300364-05H	Amber 250ml unpreserved	A	7	7	3.9	Y	Absent		PA-PAHSIM-LVI(7)
L2300364-06A	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-06B	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-06C	Vial HCl preserved	A	NA		3.9	Y	Absent		PA-8260(14)
L2300364-06D	Vial Na2S2O3 preserved	A	NA		3.9	Y	Absent		8011(14)
L2300364-06E	Vial Na2S2O3 preserved	A	NA		3.9	Y	Absent		8011(14)
L2300364-06F	Plastic 500ml HNO3 preserved	A	<2	<2	3.9	Y	Absent		PB-6020S-PPB(180)
L2300364-06G	Amber 250ml unpreserved	A	7	7	3.9	Y	Absent		PA-PAHSIM-LVI(7)
L2300364-06H	Amber 250ml unpreserved	A	7	7	3.9	Y	Absent		PA-PAHSIM-LVI(7)

Container Comments

L2300364-02H Cap cracked, sample intact.

*Values in parentheses indicate holding time in days

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2300364
Project Number:	P044.001.002	**Report Date:**	01/06/23

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2300364
Project Number:	P044.001.002	**Report Date:**	01/06/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2300364
Project Number:	P044.001.002	**Report Date:**	01/06/23

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2300364
Project Number:	P044.001.002	**Report Date:**	01/06/23

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE ____ OF ____

Date Rec'd in Lab: 1/5/23

ALPHA Job #: L2300364

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Terraphase Engineering
Address: 100 Canal Pointe Blvd
Princeton NJ 08540 Suite 108
Phone: 215 297 3502
Fax:
Email: nick.scala@terraphase.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Former Philadelphia Refinery
Project Location: 3144 W Passyunk Ave.
Project #: PQUA.001.002
Project Manager: Nick Scala
ALPHA Quote #:

Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved) 48 hour
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program	Criteria

Other Project Specific Requirements/Comments/Detection Limits:
EDD @ terraphase.com
Equis EDD

ANALYSIS: 8260 - Benzene, Ethylbenzene, methyl tert-butyl; 1,2,4/1,3,5 TMB; 1,2 - Dichloroethane; Butl - 1,2 - Dibromoethane; 8270 (SIM) - Naphthalene; 6020 - (Lead)

SAMPLE HANDLING

Filtration
☐ Done
☒ Not needed all Lead samples
☐ Lab to do
Preservation Direct Filtered
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments	TOTAL # BOTTLES
00364-01	TG04-MW-03-230104	1/4/22	9:40	GW	KSO	48 hour TAT	8
-02	TG04-MW-03-230104D	1/4/22	9:40	GW	KSO	48 hour TAT	8
-03	TG07-MW-02-230104	1/4/22	13:20	GW	KSO	48 hour TAT	8
	~~TG07-MW-02-230123~~ KSO 1/4 KSO 1/4				KSO		
-03	TG07-MW-02-230104MS	1/4/22	13:20	GW	KSO	48 hour TAT	8
-03	TG07-MW-02-230104MSD	1/4/22	13:20	GW	KSO	48 hour TAT	8
-04	TB-230104-2	1/4/22	13:04	TB	KSO	48 hour TAT	4
-05	FB-230104-2	1/4/22	11:10	FB	KSO	48 hour TAT	8
-06	TG07-MW-03-230104	1/4/22	14:05	GW	AJS	48 hour TAT	8

Container Type	
Preservative	

Relinquished By:	Date/Time	Received By:	Date/Time
	1/4/23 1510		1/4/22 15:10
	1/4/23 1800		1/4/23 1800
	1/4/23 2700		1.4.23 2140

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

1/5/23 0120

FORM NO: 01-01 (rev. 14-OCT-07)

ANALYTICAL REPORT

Lab Number:	L2300373
Client:	Terraphase Engineering Inc. 1100 East Hector Street Suite 416 Conshohocken, PA 19428
ATTN:	Nick Scala
Phone:	(215) 297-3502
Project Name:	FORMER PHILADELPHIA REFINERY
Project Number:	P044.001.002
Report Date:	01/13/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300373
Report Date: 01/13/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2300373-01	GPR794-09-1.5-2.0	SOIL	Not Specified	01/03/23 08:45	01/04/23
L2300373-02	GPR794-09-2.0-2.5	SOIL	Not Specified	01/03/23 08:55	01/04/23
L2300373-03	GPR794-09-2.0-2.5D	SOIL	Not Specified	01/03/23 08:55	01/04/23
L2300373-04	GPR794-09-3.0-3.5	SOIL	Not Specified	01/03/23 09:05	01/04/23
L2300373-05	GPR794-10-1.5-2.0	SOIL	Not Specified	01/03/23 09:45	01/04/23
L2300373-06	GPR794-10-2.0-2.5	SOIL	Not Specified	01/03/23 09:50	01/04/23
L2300373-07	GPR790-08-0.0-0.5	SOIL	Not Specified	01/03/23 10:20	01/04/23
L2300373-08	TG07-MW-04-1.5-2.0	SOIL	Not Specified	01/03/23 11:00	01/04/23
L2300373-09	TG07-MW-04-2.0-2.5	SOIL	Not Specified	01/03/23 11:10	01/04/23
L2300373-10	GPR799-08-1.0-1.5	SOIL	Not Specified	01/03/23 11:30	01/04/23
L2300373-11	GPR799-08-3.0-3.5	SOIL	Not Specified	01/03/23 11:40	01/04/23
L2300373-12	GPR791-09-0.0-0.5	SOIL	Not Specified	01/03/23 12:05	01/04/23
L2300373-13	GPR791-09-2.0-2.5	SOIL	Not Specified	01/03/23 12:10	01/04/23
L2300373-14	GPR791-09-2.5-3.0	SOIL	Not Specified	01/03/23 12:15	01/04/23
L2300373-15	GPR793-03R-2.5-3.0	SOIL	Not Specified	01/03/23 12:45	01/04/23
L2300373-16	GPR793-03R-3.0-3.5	SOIL	Not Specified	01/03/23 13:00	01/04/23
L2300373-17	GPR792-03R-1.5-2.0	SOIL	Not Specified	01/03/23 13:20	01/04/23
L2300373-18	GPR792-03R-2.0-2.5	SOIL	Not Specified	01/03/23 13:30	01/04/23
L2300373-19	GPR1117-03R-0.0-0.5	SOIL	Not Specified	01/03/23 14:40	01/04/23
L2300373-20	PB-847-15R-6.0-6.5	SOIL	Not Specified	01/04/23 09:00	01/04/23
L2300373-21	PB-847-15R-17.0-17.5	SOIL	Not Specified	01/04/23 09:10	01/04/23
L2300373-22	TG02-MW-18-15.5-16.0	SOIL	Not Specified	01/04/23 10:15	01/04/23
L2300373-23	TG01-MW-02-6.5-7.0	SOIL	Not Specified	01/04/23 12:40	01/04/23
L2300373-24	TG01-MW-02-7.0-7.5	SOIL	Not Specified	01/04/23 12:55	01/04/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2300373-25	TB-230104-1	WATER	Not Specified	01/04/23 00:00	01/04/23

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2300373
Project Number:	P044.001.002	**Report Date:**	01/13/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2300373
Project Number:	P044.001.002	**Report Date:**	01/13/23

Case Narrative (continued)

Report Submission

January 13, 2023: This final report includes the results of all requested analyses.

January 10, 2023: This preliminary report includes the results of the Volatile Organics and Semivolatile Organics analyses performed on L2300373-22.

January 10, 2023: This preliminary report includes the results of the Volatile Organics and Semivolatile Organics analyses performed on L2300373-09, -16, -18, and -21 and the Total Metals analysis performed on L2300373-21.

January 06, 2023: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2300373-20: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (148%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

L2300373-21: The internal standard (IS) response for fluorobenzene (479%) and the surrogate recoveries for dibromofluoromethane (35%) and 4-bromofluorobenzene (675%) were outside the acceptance criteria due to obvious interferences. A copy of the chromatogram is included as an attachment to this report. Since the IS response was above method criteria, all associated compounds are considered to have a potentially low bias. A high-level analysis was performed, and those results are also reported. Differences were noted between the results of the Volatile Organics by EPA Method 5035/8260 High and Low Level analyses which have been attributed to sample non-homogeneity.

L2300373-21: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (169%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2300373
Project Number:	P044.001.002	**Report Date:**	01/13/23

Case Narrative (continued)

Semivolatile Organics

L2300373-15D, -16D, -17D, and -18D: The sample has elevated detection limits due to the dilution required by the sample matrix.

L2300373-16D and -18D: The surrogate recoveries are below the acceptance criteria for nitrobenzene-d5 (0%), 2-fluorobiphenyl (0%) and 4-terphenyl-d14 (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 01/13/23

ORGANICS

VOLATILES

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-01
Client ID: GPR794-09-1.5-2.0
Sample Location: Not Specified

Date Collected: 01/03/23 08:45
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/05/23 13:42
Analyst: NLK
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.098	0.0099	1
Benzene	1.0		mg/kg	0.024	0.0082	1
Toluene	0.42		mg/kg	0.049	0.027	1
Ethylbenzene	0.11		mg/kg	0.049	0.0069	1
p/m-Xylene	0.32		mg/kg	0.098	0.028	1
o-Xylene	ND		mg/kg	0.049	0.014	1
Xylenes, Total	0.32		mg/kg	0.049	0.014	1
Isopropylbenzene	17.	E	mg/kg	0.049	0.0054	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.098	0.0095	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.098	0.016	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	100		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-01 D
Client ID: GPR794-09-1.5-2.0
Sample Location: Not Specified

Date Collected: 01/03/23 08:45
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/06/23 01:19
Analyst: JIC
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	18.		mg/kg	0.098	0.011	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	116		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-02
Client ID: GPR794-09-2.0-2.5
Sample Location: Not Specified

Date Collected: 01/03/23 08:55
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/05/23 14:02
Analyst: NLK
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.097	0.0098	1
Benzene	2.6		mg/kg	0.024	0.0081	1
Toluene	1.7		mg/kg	0.049	0.026	1
Ethylbenzene	0.32		mg/kg	0.049	0.0069	1
p/m-Xylene	1.0		mg/kg	0.097	0.027	1
o-Xylene	0.11		mg/kg	0.049	0.014	1
Xylenes, Total	1.1		mg/kg	0.049	0.014	1
Isopropylbenzene	20.	E	mg/kg	0.049	0.0053	1
1,3,5-Trimethylbenzene	0.016	J	mg/kg	0.097	0.0094	1
1,2,4-Trimethylbenzene	0.047	J	mg/kg	0.097	0.016	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	97		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-02 D
Client ID: GPR794-09-2.0-2.5
Sample Location: Not Specified

Date Collected: 01/03/23 08:55
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/06/23 01:47
Analyst: JIC
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	20.		mg/kg	0.12	0.013	2.5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	114		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-03
Client ID: GPR794-09-2.0-2.5D
Sample Location: Not Specified

Date Collected: 01/03/23 08:55
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/05/23 14:22
Analyst: NLK
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.093	0.0094	1
Benzene	1.1		mg/kg	0.023	0.0077	1
Toluene	0.83		mg/kg	0.046	0.025	1
Ethylbenzene	0.21		mg/kg	0.046	0.0066	1
p/m-Xylene	0.72		mg/kg	0.093	0.026	1
o-Xylene	0.092		mg/kg	0.046	0.014	1
Xylenes, Total	0.81		mg/kg	0.046	0.014	1
Isopropylbenzene	14.	E	mg/kg	0.046	0.0051	1
1,3,5-Trimethylbenzene	0.017	J	mg/kg	0.093	0.0090	1
1,2,4-Trimethylbenzene	0.042	J	mg/kg	0.093	0.016	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	103		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-03 D
Client ID: GPR794-09-2.0-2.5D
Sample Location: Not Specified

Date Collected: 01/03/23 08:55
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/06/23 02:14
Analyst: JIC
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	14.		mg/kg	0.093	0.010	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	117		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-05 D2
Client ID: GPR794-10-1.5-2.0
Sample Location: Not Specified

Date Collected: 01/03/23 09:45
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/06/23 02:41
Analyst: JIC
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	42.		mg/kg	0.47	0.051	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	117		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-05 D
Client ID: GPR794-10-1.5-2.0
Sample Location: Not Specified

Date Collected: 01/03/23 09:45
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/05/23 14:41
Analyst: NLK
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.19	0.019	2
Benzene	0.35		mg/kg	0.047	0.016	2
Toluene	0.27		mg/kg	0.094	0.051	2
Ethylbenzene	0.020	J	mg/kg	0.094	0.013	2
p/m-Xylene	0.076	J	mg/kg	0.19	0.052	2
o-Xylene	ND		mg/kg	0.094	0.027	2
Xylenes, Total	0.076	J	mg/kg	0.094	0.027	2
Isopropylbenzene	37.	E	mg/kg	0.094	0.010	2
1,3,5-Trimethylbenzene	ND		mg/kg	0.19	0.018	2
1,2,4-Trimethylbenzene	ND		mg/kg	0.19	0.031	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	102		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-07
Client ID: GPR790-08-0.0-0.5
Sample Location: Not Specified

Date Collected: 01/03/23 10:20
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/05/23 12:24
Analyst: JIC
Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00021	1
Benzene	0.00076		mg/kg	0.00051	0.00017	1
Toluene	0.00074	J	mg/kg	0.0010	0.00056	1
Ethylbenzene	0.00019	J	mg/kg	0.0010	0.00014	1
p/m-Xylene	0.00068	J	mg/kg	0.0020	0.00057	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	0.00068	J	mg/kg	0.0010	0.00030	1
Isopropylbenzene	0.0063		mg/kg	0.0010	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00020	1
1,2,4-Trimethylbenzene	0.00039	J	mg/kg	0.0020	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	109		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-08 D2 Date Collected: 01/03/23 11:00
Client ID: TG07-MW-04-1.5-2.0 Date Received: 01/04/23
Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/06/23 09:59
Analyst: JIC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Benzene	440		mg/kg	3.0	1.0	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	106		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-08 D
Client ID: TG07-MW-04-1.5-2.0
Sample Location: Not Specified

Date Collected: 01/03/23 11:00
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/05/23 15:01
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	2.4	0.24	20
Benzene	420	E	mg/kg	0.60	0.20	20
Toluene	ND		mg/kg	1.2	0.65	20
Ethylbenzene	ND		mg/kg	1.2	0.17	20
p/m-Xylene	ND		mg/kg	2.4	0.67	20
o-Xylene	ND		mg/kg	1.2	0.35	20
Xylenes, Total	ND		mg/kg	1.2	0.35	20
Isopropylbenzene	41.		mg/kg	1.2	0.13	20
1,3,5-Trimethylbenzene	ND		mg/kg	2.4	0.23	20
1,2,4-Trimethylbenzene	ND		mg/kg	2.4	0.40	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	98		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-09 D2 Date Collected: 01/03/23 11:10
Client ID: TG07-MW-04-2.0-2.5 Date Received: 01/04/23
Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/09/23 20:37
Analyst: JIC
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.72	0.072	5
Benzene	160	E	mg/kg	0.18	0.059	5
Toluene	0.28	J	mg/kg	0.36	0.19	5
Ethylbenzene	0.081	J	mg/kg	0.36	0.050	5
p/m-Xylene	ND		mg/kg	0.72	0.20	5
o-Xylene	0.17	J	mg/kg	0.36	0.10	5
Xylenes, Total	0.17	J	mg/kg	0.36	0.10	5
Isopropylbenzene	42.		mg/kg	0.36	0.039	5
1,3,5-Trimethylbenzene	0.24	J	mg/kg	0.72	0.069	5
1,2,4-Trimethylbenzene	0.51	J	mg/kg	0.72	0.12	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	104		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-09 D
Client ID: TG07-MW-04-2.0-2.5
Sample Location: Not Specified

Date Collected: 01/03/23 11:10
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/08/23 20:26
Analyst: JIC
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Benzene	170		mg/kg	0.72	0.24	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	92		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-10
Client ID: GPR799-08-1.0-1.5
Sample Location: Not Specified

Date Collected: 01/03/23 11:30
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/05/23 12:44
Analyst: JIC
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0019	0.00019	1
Benzene	0.20		mg/kg	0.00047	0.00016	1
Toluene	0.0048		mg/kg	0.00094	0.00051	1
Ethylbenzene	ND		mg/kg	0.00094	0.00013	1
p/m-Xylene	ND		mg/kg	0.0019	0.00052	1
o-Xylene	ND		mg/kg	0.00094	0.00027	1
Xylenes, Total	ND		mg/kg	0.00094	0.00027	1
Isopropylbenzene	0.0044		mg/kg	0.00094	0.00010	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0019	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0019	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	102		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-11 D2 Date Collected: 01/03/23 11:40
Client ID: GPR799-08-3.0-3.5 Date Received: 01/04/23
Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/06/23 03:08
Analyst: JIC
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	700		mg/kg	4.0	0.43	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	114		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-11 D
Client ID: GPR799-08-3.0-3.5
Sample Location: Not Specified

Date Collected: 01/03/23 11:40
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/05/23 15:20
Analyst: NLK
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	1.6	0.16	10
Benzene	0.77		mg/kg	0.40	0.13	10
Toluene	ND		mg/kg	0.80	0.43	10
Ethylbenzene	0.13	J	mg/kg	0.80	0.11	10
p/m-Xylene	0.46	J	mg/kg	1.6	0.44	10
o-Xylene	ND		mg/kg	0.80	0.23	10
Xylenes, Total	0.46	J	mg/kg	0.80	0.23	10
Isopropylbenzene	460	E	mg/kg	0.80	0.087	10
1,3,5-Trimethylbenzene	ND		mg/kg	1.6	0.15	10
1,2,4-Trimethylbenzene	ND		mg/kg	1.6	0.26	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	95		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-12
Client ID: GPR791-09-0.0-0.5
Sample Location: Not Specified

Date Collected: 01/03/23 12:05
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/05/23 13:03
Analyst: JIC
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0016	0.00016	1
Benzene	0.0046		mg/kg	0.00041	0.00014	1
Toluene	0.0045		mg/kg	0.00081	0.00044	1
Ethylbenzene	0.00061	J	mg/kg	0.00081	0.00011	1
p/m-Xylene	0.0021		mg/kg	0.0016	0.00046	1
o-Xylene	0.00045	J	mg/kg	0.00081	0.00024	1
Xylenes, Total	0.0026	J	mg/kg	0.00081	0.00024	1
Isopropylbenzene	0.14		mg/kg	0.00081	0.00008	1
1,3,5-Trimethylbenzene	0.00028	J	mg/kg	0.0016	0.00016	1
1,2,4-Trimethylbenzene	0.00067	J	mg/kg	0.0016	0.00027	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	127		70-130
Dibromofluoromethane	99		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-13
Client ID: GPR791-09-2.0-2.5
Sample Location: Not Specified

Date Collected: 01/03/23 12:10
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/05/23 13:23
Analyst: JIC
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	0.0035		mg/kg	0.00049	0.00016	1
Toluene	0.00064	J	mg/kg	0.00099	0.00054	1
Ethylbenzene	ND		mg/kg	0.00099	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00099	0.00029	1
Xylenes, Total	ND		mg/kg	0.00099	0.00029	1
Isopropylbenzene	0.0043		mg/kg	0.00099	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	99		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-15 D2 Date Collected: 01/03/23 12:45
Client ID: GPR793-03R-2.5-3.0 Date Received: 01/04/23
Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/06/23 10:19
Analyst: JIC
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	1500		mg/kg	50	5.4	1000

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	107		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-15 D
Client ID: GPR793-03R-2.5-3.0
Sample Location: Not Specified

Date Collected: 01/03/23 12:45
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/06/23 03:35
Analyst: JIC
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	10	1.0	100
Benzene	ND		mg/kg	2.5	0.83	100
Toluene	ND		mg/kg	5.0	2.7	100
Ethylbenzene	ND		mg/kg	5.0	0.70	100
p/m-Xylene	ND		mg/kg	10	2.8	100
o-Xylene	ND		mg/kg	5.0	1.4	100
Xylenes, Total	ND		mg/kg	5.0	1.4	100
Isopropylbenzene	2700	E	mg/kg	5.0	0.54	100
1,3,5-Trimethylbenzene	ND		mg/kg	10	0.96	100
1,2,4-Trimethylbenzene	ND		mg/kg	10	1.7	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	114		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-16 D2 Date Collected: 01/03/23 13:00
Client ID: GPR793-03R-3.0-3.5 Date Received: 01/04/23
Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/09/23 21:32
Analyst: JIC
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	2200		mg/kg	22	2.4	400

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	109		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-16 D
Client ID: GPR793-03R-3.0-3.5
Sample Location: Not Specified

Date Collected: 01/03/23 13:00
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/08/23 20:52
Analyst: JIC
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	11	1.1	100
Benzene	ND		mg/kg	2.8	0.93	100
Toluene	ND		mg/kg	5.6	3.0	100
Ethylbenzene	ND		mg/kg	5.6	0.79	100
p/m-Xylene	ND		mg/kg	11	3.1	100
o-Xylene	ND		mg/kg	5.6	1.6	100
Xylenes, Total	ND		mg/kg	5.6	1.6	100
Isopropylbenzene	2300	E	mg/kg	5.6	0.61	100
1,3,5-Trimethylbenzene	ND		mg/kg	11	1.1	100
1,2,4-Trimethylbenzene	ND		mg/kg	11	1.9	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	93		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-17 D2 Date Collected: 01/03/23 13:20
Client ID: GPR792-03R-1.5-2.0 Date Received: 01/04/23
Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/06/23 04:02
Analyst: JIC
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.56	0.056	5
Benzene	0.32		mg/kg	0.14	0.047	5
Toluene	ND		mg/kg	0.28	0.15	5
Ethylbenzene	0.060	J	mg/kg	0.28	0.040	5
p/m-Xylene	ND		mg/kg	0.56	0.16	5
o-Xylene	ND		mg/kg	0.28	0.082	5
Xylenes, Total	ND		mg/kg	0.28	0.082	5
Isopropylbenzene	200	E	mg/kg	0.28	0.031	5
1,3,5-Trimethylbenzene	0.067	J	mg/kg	0.56	0.054	5
1,2,4-Trimethylbenzene	0.12	J	mg/kg	0.56	0.094	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	112		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-17 D
Client ID: GPR792-03R-1.5-2.0
Sample Location: Not Specified

Date Collected: 01/03/23 13:20
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/05/23 15:59
Analyst: NLK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	160		mg/kg	0.56	0.061	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	102		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-18 D2 Date Collected: 01/03/23 13:30
Client ID: GPR792-03R-2.0-2.5 Date Received: 01/04/23
Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/09/23 21:59
Analyst: JIC
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.50	0.050	5
Benzene	0.46		mg/kg	0.12	0.041	5
Toluene	ND		mg/kg	0.25	0.14	5
Ethylbenzene	0.052	J	mg/kg	0.25	0.035	5
p/m-Xylene	ND		mg/kg	0.50	0.14	5
o-Xylene	ND		mg/kg	0.25	0.073	5
Xylenes, Total	ND		mg/kg	0.25	0.073	5
Isopropylbenzene	190	E	mg/kg	0.25	0.027	5
1,3,5-Trimethylbenzene	0.074	J	mg/kg	0.50	0.048	5
1,2,4-Trimethylbenzene	0.14	J	mg/kg	0.50	0.083	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	106		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-18 D
Client ID: GPR792-03R-2.0-2.5
Sample Location: Not Specified

Date Collected: 01/03/23 13:30
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/08/23 21:18
Analyst: JIC
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Isopropylbenzene	160		mg/kg	1.0	0.11	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	92		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-19
Client ID: GPR1117-03R-0.0-0.5
Sample Location: Not Specified

Date Collected: 01/03/23 14:40
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/06/23 09:20
Analyst: JIC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020	1
Benzene	0.00032	J	mg/kg	0.00050	0.00016	1
Toluene	ND		mg/kg	0.00099	0.00054	1
Ethylbenzene	ND		mg/kg	0.00099	0.00014	1
p/m-Xylene	ND		mg/kg	0.0020	0.00055	1
o-Xylene	ND		mg/kg	0.00099	0.00029	1
Xylenes, Total	ND		mg/kg	0.00099	0.00029	1
Isopropylbenzene	0.11		mg/kg	0.00099	0.00011	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	112		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-20
Client ID: PB-847-15R-6.0-6.5
Sample Location: Not Specified

Date Collected: 01/04/23 09:00
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/06/23 09:40
Analyst: JIC
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.13	0.013	1
Benzene	ND		mg/kg	0.032	0.011	1
Ethylbenzene	5.4		mg/kg	0.064	0.0090	1
p/m-Xylene	2.3		mg/kg	0.13	0.036	1
o-Xylene	0.23		mg/kg	0.064	0.019	1
Xylenes, Total	2.5		mg/kg	0.064	0.019	1
Isopropylbenzene	3.2		mg/kg	0.064	0.0070	1
1,3,5-Trimethylbenzene	3.2		mg/kg	0.13	0.012	1
1,2,4-Trimethylbenzene	5.1		mg/kg	0.13	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	**148**	Q	70-130
Dibromofluoromethane	97		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-21
Client ID: PB-847-15R-17.0-17.5
Sample Location: Not Specified

Date Collected: 01/04/23 09:10
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/09/23 21:05
Analyst: JIC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.10	0.010	1
Benzene	0.16		mg/kg	0.026	0.0085	1
Ethylbenzene	0.018	J	mg/kg	0.051	0.0073	1
p/m-Xylene	ND		mg/kg	0.10	0.029	1
o-Xylene	ND		mg/kg	0.051	0.015	1
Xylenes, Total	ND		mg/kg	0.051	0.015	1
Isopropylbenzene	1.1		mg/kg	0.051	0.0056	1
1,3,5-Trimethylbenzene	0.016	J	mg/kg	0.10	0.0099	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		70-130
Toluene-d8	116		70-130
4-Bromofluorobenzene	**169**	Q	70-130
Dibromofluoromethane	85		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-21
Client ID: PB-847-15R-17.0-17.5
Sample Location: Not Specified

Date Collected: 01/04/23 09:10
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/09/23 22:53
Analyst: JIC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00019	1
Benzene	0.0076		mg/kg	0.00046	0.00015	1
Ethylbenzene	0.0024		mg/kg	0.00093	0.00013	1
p/m-Xylene	0.00070	J	mg/kg	0.0018	0.00052	1
o-Xylene	0.0014		mg/kg	0.00093	0.00027	1
Xylenes, Total	0.0021	J	mg/kg	0.00093	0.00027	1
Isopropylbenzene	0.11		mg/kg	0.00093	0.00010	1
1,3,5-Trimethylbenzene	0.0011	J	mg/kg	0.0018	0.00018	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0018	0.00031	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		70-130
Toluene-d8	117		70-130
4-Bromofluorobenzene	**675**	Q	70-130
Dibromofluoromethane	**35**	Q	70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-22
Client ID: TG02-MW-18-15.5-16.0
Sample Location: Not Specified

Date Collected: 01/04/23 10:15
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 01/06/23 15:32
Analyst: LAC
Percent Solids: 72%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Benzene	0.034	J	mg/kg	0.037	0.012	1
Toluene	0.30		mg/kg	0.074	0.040	1
1,2-Dibromoethane	ND		mg/kg	0.037	0.022	1
Ethylbenzene	3.4		mg/kg	0.074	0.010	1
p/m-Xylene	14.		mg/kg	0.15	0.041	1
o-Xylene	5.3		mg/kg	0.074	0.022	1
Xylenes, Total	19.		mg/kg	0.074	0.022	1
Isopropylbenzene	0.42		mg/kg	0.074	0.0081	1
1,3,5-Trimethylbenzene	3.8		mg/kg	0.15	0.014	1
1,2,4-Trimethylbenzene	11.		mg/kg	0.15	0.025	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	102		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-25
Client ID: TB-230104-1
Sample Location: Not Specified

Date Collected: 01/04/23 00:00
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 01/05/23 10:09
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	98		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 01/05/23 09:19
Analyst: JIC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 07,10,12-13 Batch: WG1730307-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
Toluene	ND		mg/kg	0.0010	0.00054
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	107		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 01/05/23 09:19
Analyst: JIC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01-03,05,08,11,17 Batch: WG1730426-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
Toluene	ND		mg/kg	0.050	0.027
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	107		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 01/05/23 09:43
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 25 Batch: WG1730461-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
1,2-Dibromoethane	ND		ug/l	2.0	0.19
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	97		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 01/05/23 18:31
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01-03,05,11,15,17 Batch: WG1730645-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
Toluene	ND		mg/kg	0.050	0.027
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	115		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 01/06/23 08:35
Analyst: JIC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 19 Batch: WG1730716-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
Toluene	ND		mg/kg	0.0010	0.00054
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	107		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 01/06/23 08:35
Analyst: JIC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 08,15,20,22 Batch: WG1730717-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
Toluene	ND		mg/kg	0.050	0.027
1,2-Dibromoethane	ND		mg/kg	0.025	0.015
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	107		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 01/08/23 14:47
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 09,16,18 Batch: WG1731730-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
Toluene	ND		mg/kg	0.050	0.027
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	90		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 01/09/23 14:43
Analyst: JIC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 21 Batch: WG1731733-5					
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
Benzene	ND		mg/kg	0.00050	0.00017
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,3,5-Trimethylbenzene	ND		mg/kg	0.0020	0.00019
1,2,4-Trimethylbenzene	ND		mg/kg	0.0020	0.00033

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	116		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 01/09/23 14:43
Analyst: JIC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 09,16,18,21 Batch: WG1731736-5					
Methyl tert butyl ether	ND		mg/kg	0.10	0.010
Benzene	ND		mg/kg	0.025	0.0083
Toluene	ND		mg/kg	0.050	0.027
Ethylbenzene	ND		mg/kg	0.050	0.0070
p/m-Xylene	ND		mg/kg	0.10	0.028
o-Xylene	ND		mg/kg	0.050	0.014
Xylenes, Total	ND		mg/kg	0.050	0.014
Isopropylbenzene	ND		mg/kg	0.050	0.0054
1,3,5-Trimethylbenzene	ND		mg/kg	0.10	0.0096
1,2,4-Trimethylbenzene	ND		mg/kg	0.10	0.017

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	116		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300373

Report Date: 01/13/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 07,10,12-13 Batch: WG1730307-3 WG1730307-4								
Methyl tert butyl ether	107		107		66-130	0		30
Benzene	108		110		70-130	2		30
Toluene	104		108		70-130	4		30
Ethylbenzene	107		110		70-130	3		30
p/m-Xylene	108		112		70-130	4		30
o-Xylene	108		112		70-130	4		30
Isopropylbenzene	106		108		70-130	2		30
1,3,5-Trimethylbenzene	108		109		70-130	1		30
1,2,4-Trimethylbenzene	107		108		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	98		99		70-130
4-Bromofluorobenzene	100		97		70-130
Dibromofluoromethane	97		98		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300373

Report Date: 01/13/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01-03,05,08,11,17 Batch: WG1730426-3 WG1730426-4								
Methyl tert butyl ether	107		107		66-130	0		30
Benzene	108		110		70-130	2		30
Toluene	104		108		70-130	4		30
Ethylbenzene	107		110		70-130	3		30
p/m-Xylene	108		112		70-130	4		30
o-Xylene	108		112		70-130	4		30
Isopropylbenzene	106		108		70-130	2		30
1,3,5-Trimethylbenzene	108		109		70-130	1		30
1,2,4-Trimethylbenzene	107		108		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	98		99		70-130
4-Bromofluorobenzene	100		97		70-130
Dibromofluoromethane	97		98		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300373

Report Date: 01/13/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 25 Batch: WG1730461-3 WG1730461-4								
Methyl tert butyl ether	97		95		63-130	2		20
Benzene	110		110		70-130	0		20
1,2-Dichloroethane	100		100		70-130	0		20
Toluene	110		100		70-130	10		20
1,2-Dibromoethane	100		100		70-130	0		20
Ethylbenzene	110		100		70-130	10		20
p/m-Xylene	110		105		70-130	5		20
o-Xylene	105		105		70-130	0		20
Isopropylbenzene	110		110		70-130	0		20
1,3,5-Trimethylbenzene	110		110		64-130	0		20
1,2,4-Trimethylbenzene	110		100		70-130	10		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		98		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	96		96		70-130
Dibromofluoromethane	98		96		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300373

Report Date: 01/13/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01-03,05,11,15,17 Batch: WG1730645-3 WG1730645-4								
Methyl tert butyl ether	101		101		66-130	0		30
Benzene	111		111		70-130	0		30
Toluene	102		101		70-130	1		30
Ethylbenzene	105		104		70-130	1		30
p/m-Xylene	110		109		70-130	1		30
o-Xylene	105		106		70-130	1		30
Isopropylbenzene	100		102		70-130	2		30
1,3,5-Trimethylbenzene	100		102		70-130	2		30
1,2,4-Trimethylbenzene	100		102		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		98		70-130
Toluene-d8	95		95		70-130
4-Bromofluorobenzene	82		85		70-130
Dibromofluoromethane	113		114		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300373

Report Date: 01/13/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 19 Batch: WG1730716-3 WG1730716-4								
Methyl tert butyl ether	85		92		66-130	8		30
Benzene	86		91		70-130	6		30
Toluene	84		90		70-130	7		30
Ethylbenzene	86		92		70-130	7		30
p/m-Xylene	88		94		70-130	7		30
o-Xylene	87		93		70-130	7		30
Isopropylbenzene	87		91		70-130	4		30
1,3,5-Trimethylbenzene	87		93		70-130	7		30
1,2,4-Trimethylbenzene	87		92		70-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		97		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	100		98		70-130
Dibromofluoromethane	98		99		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300373

Report Date: 01/13/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 08,15,20,22 Batch: WG1730717-3 WG1730717-4								
Methyl tert butyl ether	85		92		66-130	8		30
Benzene	86		91		70-130	6		30
Toluene	84		90		70-130	7		30
1,2-Dibromoethane	86		93		70-130	8		30
Ethylbenzene	86		92		70-130	7		30
p/m-Xylene	88		94		70-130	7		30
o-Xylene	87		93		70-130	7		30
Isopropylbenzene	87		91		70-130	4		30
1,3,5-Trimethylbenzene	87		93		70-130	7		30
1,2,4-Trimethylbenzene	87		92		70-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		97		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	100		98		70-130
Dibromofluoromethane	98		99		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300373

Report Date: 01/13/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 09,16,18 Batch: WG1731730-3 WG1731730-4								
Methyl tert butyl ether	100		101		66-130	1		30
Benzene	106		107		70-130	1		30
Toluene	103		103		70-130	0		30
Ethylbenzene	107		107		70-130	0		30
p/m-Xylene	103		103		70-130	0		30
o-Xylene	100		100		70-130	0		30
Isopropylbenzene	112		112		70-130	0		30
1,3,5-Trimethylbenzene	110		110		70-130	0		30
1,2,4-Trimethylbenzene	108		108		70-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		106		70-130
Toluene-d8	108		108		70-130
4-Bromofluorobenzene	116		116		70-130
Dibromofluoromethane	91		91		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300373

Report Date: 01/13/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 21 Batch: WG1731733-3 WG1731733-4								
Methyl tert butyl ether	92		94		66-130	2		30
Benzene	102		105		70-130	3		30
Ethylbenzene	96		98		70-130	2		30
p/m-Xylene	101		104		70-130	3		30
o-Xylene	99		101		70-130	2		30
Isopropylbenzene	93		95		70-130	2		30
1,3,5-Trimethylbenzene	95		96		70-130	1		30
1,2,4-Trimethylbenzene	95		96		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		99		70-130
Toluene-d8	95		94		70-130
4-Bromofluorobenzene	84		84		70-130
Dibromofluoromethane	109		110		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300373

Report Date: 01/13/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 09,16,18,21 Batch: WG1731736-3 WG1731736-4								
Methyl tert butyl ether	92		94		66-130	2		30
Benzene	102		105		70-130	3		30
Toluene	94		95		70-130	1		30
Ethylbenzene	96		98		70-130	2		30
p/m-Xylene	101		104		70-130	3		30
o-Xylene	99		101		70-130	2		30
Isopropylbenzene	93		95		70-130	2		30
1,3,5-Trimethylbenzene	95		96		70-130	1		30
1,2,4-Trimethylbenzene	95		96		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		99		70-130
Toluene-d8	95		95		70-130
4-Bromofluorobenzene	84		84		70-130
Dibromofluoromethane	109		110		70-130

SEMIVOLATILES

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-01
Client ID: GPR794-09-1.5-2.0
Sample Location: Not Specified

Date Collected: 01/03/23 08:45
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 01/05/23 13:01
Analyst: MG
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 01/05/23 06:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.031	J	mg/kg	0.036	0.022	1
Benzo(a)pyrene	0.19		mg/kg	0.14	0.044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	61		30-120
4-Terphenyl-d14	58		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-02
Client ID: GPR794-09-2.0-2.5
Sample Location: Not Specified

Date Collected: 01/03/23 08:55
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 01/05/23 13:26
Analyst: MG
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 01/05/23 06:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.27		mg/kg	0.036	0.022	1
Benzo(a)pyrene	0.087	J	mg/kg	0.14	0.044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	95		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	69		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-03
Client ID: GPR794-09-2.0-2.5D
Sample Location: Not Specified

Date Collected: 01/03/23 08:55
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 01/05/23 13:50
Analyst: MG
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 01/05/23 06:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.20		mg/kg	0.036	0.022	1
Benzo(a)pyrene	0.058	J	mg/kg	0.14	0.043	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	91		23-120
2-Fluorobiphenyl	68		30-120
4-Terphenyl-d14	65		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-05
Client ID: GPR794-10-1.5-2.0
Sample Location: Not Specified

Date Collected: 01/03/23 09:45
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 01/05/23 14:14
Analyst: MG
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 01/05/23 06:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.30		mg/kg	0.036	0.022	1
Benzo(a)pyrene	0.047	J	mg/kg	0.14	0.044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	66		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-07
Client ID: GPR790-08-0.0-0.5
Sample Location: Not Specified

Date Collected: 01/03/23 10:20
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 01/05/23 14:38
Analyst: MG
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 01/05/23 06:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.036	J	mg/kg	0.040	0.024	1
Benzo(a)pyrene	0.47		mg/kg	0.16	0.049	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	52		23-120
2-Fluorobiphenyl	42		30-120
4-Terphenyl-d14	42		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-08
Client ID: TG07-MW-04-1.5-2.0
Sample Location: Not Specified

Date Collected: 01/03/23 11:00
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 01/05/23 15:02
Analyst: MG
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 01/05/23 06:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	1.0		mg/kg	0.038	0.023	1
Benzo(a)pyrene	0.076	J	mg/kg	0.15	0.046	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	61		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-09
Client ID: TG07-MW-04-2.0-2.5
Sample Location: Not Specified

Date Collected: 01/03/23 11:10
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 01/08/23 19:06
Analyst: CMM
Percent Solids: 77%

Extraction Method: EPA 3546
Extraction Date: 01/07/23 09:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.23		mg/kg	0.043	0.026	1
Benzo(a)pyrene	ND		mg/kg	0.17	0.052	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	37		23-120
2-Fluorobiphenyl	48		30-120
4-Terphenyl-d14	33		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-10
Client ID: GPR799-08-1.0-1.5
Sample Location: Not Specified

Date Collected: 01/03/23 11:30
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 01/05/23 15:26
Analyst: MG
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 01/05/23 06:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.032	J	mg/kg	0.037	0.022	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	67		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-11
Client ID: GPR799-08-3.0-3.5
Sample Location: Not Specified

Date Collected: 01/03/23 11:40
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 01/05/23 15:50
Analyst: MG
Percent Solids: 77%

Extraction Method: EPA 3546
Extraction Date: 01/05/23 06:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	1.6		mg/kg	0.042	0.026	1
Benzo(a)pyrene	0.83		mg/kg	0.17	0.052	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	66		30-120
4-Terphenyl-d14	60		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-12
Client ID: GPR791-09-0.0-0.5
Sample Location: Not Specified

Date Collected: 01/03/23 12:05
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 01/05/23 16:14
Analyst: MG
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 01/05/23 06:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.12		mg/kg	0.036	0.022	1
Benzo(a)pyrene	0.51		mg/kg	0.14	0.044	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	65		30-120
4-Terphenyl-d14	60		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-13
Client ID: GPR791-09-2.0-2.5
Sample Location: Not Specified

Date Collected: 01/03/23 12:10
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 01/05/23 16:38
Analyst: MG
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 01/05/23 06:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.037	0.022	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	68		30-120
4-Terphenyl-d14	61		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-15 D
Client ID: GPR793-03R-2.5-3.0
Sample Location: Not Specified

Date Collected: 01/03/23 12:45
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 01/06/23 01:54
Analyst: CMM
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 01/05/23 06:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.18	0.11	5
Benzo(a)pyrene	ND		mg/kg	0.72	0.22	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	95		23-120
2-Fluorobiphenyl	58		30-120
4-Terphenyl-d14	79		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-16 D
Client ID: GPR793-03R-3.0-3.5
Sample Location: Not Specified

Date Collected: 01/03/23 13:00
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 01/10/23 06:07
Analyst: SLR
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 01/07/23 09:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.73	0.45	20
Benzo(a)pyrene	ND		mg/kg	2.9	0.89	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**0**	Q	23-120
2-Fluorobiphenyl	**0**	Q	30-120
4-Terphenyl-d14	**0**	Q	18-120

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-17 D
Client ID: GPR792-03R-1.5-2.0
Sample Location: Not Specified

Date Collected: 01/03/23 13:20
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 01/06/23 03:31
Analyst: CMM
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 01/05/23 06:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.19	0.11	5
Benzo(a)pyrene	ND		mg/kg	0.75	0.23	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	49		30-120
4-Terphenyl-d14	62		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-18 D
Client ID: GPR792-03R-2.0-2.5
Sample Location: Not Specified

Date Collected: 01/03/23 13:30
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 01/10/23 06:31
Analyst: SLR
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 01/07/23 09:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.71	0.44	20
Benzo(a)pyrene	ND		mg/kg	2.8	0.87	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**0**	Q	23-120
2-Fluorobiphenyl	**0**	Q	30-120
4-Terphenyl-d14	**0**	Q	18-120

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-19
Client ID: GPR1117-03R-0.0-0.5
Sample Location: Not Specified

Date Collected: 01/03/23 14:40
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 01/05/23 17:50
Analyst: MG
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 01/05/23 06:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	0.46		mg/kg	0.039	0.024	1
Benzo(a)pyrene	0.76		mg/kg	0.16	0.048	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	67		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-20
Client ID: PB-847-15R-6.0-6.5
Sample Location: Not Specified

Date Collected: 01/04/23 09:00
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 01/05/23 18:14
Analyst: MG
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 01/05/23 06:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	7.5		mg/kg	0.040	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	63		30-120
4-Terphenyl-d14	56		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-21
Client ID: PB-847-15R-17.0-17.5
Sample Location: Not Specified

Date Collected: 01/04/23 09:10
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 01/08/23 20:17
Analyst: CMM
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 01/07/23 09:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	1.6		mg/kg	0.038	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	44		23-120
2-Fluorobiphenyl	62		30-120
4-Terphenyl-d14	50		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-22
Client ID: TG02-MW-18-15.5-16.0
Sample Location: Not Specified

Date Collected: 01/04/23 10:15
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 01/05/23 18:38
Analyst: JG
Percent Solids: 72%

Extraction Method: EPA 3546
Extraction Date: 01/05/23 06:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	1.4		mg/kg	0.045	0.027	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	62		30-120
4-Terphenyl-d14	59		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300373
Report Date: 01/13/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270E
Analytical Date: 01/04/23 22:58
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 01/04/23 17:12

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,05,07-08,10-13,15,17,19-20,22 Batch: WG1730021-1					
Naphthalene	ND		mg/kg	0.033	0.020
Benzo(a)pyrene	ND		mg/kg	0.13	0.040

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	75		25-120
Phenol-d6	74		10-120
Nitrobenzene-d5	63		23-120
2-Fluorobiphenyl	79		30-120
2,4,6-Tribromophenol	76		10-136
4-Terphenyl-d14	90		18-120

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300373
Report Date: 01/13/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270E
Analytical Date: 01/06/23 22:06
Analyst: CMM

Extraction Method: EPA 3546
Extraction Date: 01/06/23 13:05

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 09,16,18,21 Batch: WG1730747-1					
Naphthalene	ND		mg/kg	0.033	0.020
Benzo(a)pyrene	ND		mg/kg	0.13	0.040

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	67		23-120
2-Fluorobiphenyl	58		30-120
4-Terphenyl-d14	67		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300373

Report Date: 01/13/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05,07-08,10-13,15,17,19-20,22 Batch: WG1730021-2 WG1730021-3								
Naphthalene	66		66		40-140	0		50
Benzo(a)pyrene	77		78		40-140	1		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	67		67		25-120
Phenol-d6	66		65		10-120
Nitrobenzene-d5	58		58		23-120
2-Fluorobiphenyl	70		68		30-120
2,4,6-Tribromophenol	70		68		10-136
4-Terphenyl-d14	76		76		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300373

Report Date: 01/13/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 09,16,18,21 Batch: WG1730747-2 WG1730747-3								
Naphthalene	57		57		40-140	0		50
Benzo(a)pyrene	57		56		40-140	2		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	69		68		23-120
2-Fluorobiphenyl	58		59		30-120
4-Terphenyl-d14	65		64		18-120

METALS

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-20
Client ID: PB-847-15R-6.0-6.5
Sample Location: Not Specified
Date Collected: 01/04/23 09:00
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	6.75		mg/kg	2.37	0.127	1	01/05/23 07:30	01/05/23 11:04	EPA 3050B	1,6010D	EGW

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-21
Client ID: PB-847-15R-17.0-17.5
Sample Location: Not Specified
Date Collected: 01/04/23 09:10
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	5.90		mg/kg	2.26	0.121	1	01/09/23 22:00	01/10/23 08:24	EPA 3050B	1,6010D	EGW

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300373
Project Number: P044.001.002
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-22
Client ID: TG02-MW-18-15.5-16.0
Sample Location: Not Specified
Date Collected: 01/04/23 10:15
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 72%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	83.5		mg/kg	2.63	0.141	1	01/05/23 07:30	01/05/23 11:09	EPA 3050B	1,6010D	EGW

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300373

Project Number: P044.001.002 **Report Date:** 01/13/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 20,22 Batch: WG1730143-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	01/05/23 07:30	01/05/23 10:32	1,6010D	EGW

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 21 Batch: WG1731076-1										
Lead, Total	ND		mg/kg	2.00	0.107	1	01/09/23 22:00	01/10/23 08:02	1,6010D	EGW

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300373

Report Date: 01/13/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 20,22 Batch: WG1730143-2 SRM Lot Number: D116-540								
Lead, Total	104		-		83-117	-		
Total Metals - Mansfield Lab Associated sample(s): 21 Batch: WG1731076-2 SRM Lot Number: D116-540								
Lead, Total	101		-		83-117	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300373
Report Date: 01/13/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 20,22 QC Batch ID: WG1730143-3 QC Sample: L2300289-01 Client ID: MS Sample												
Lead, Total	26.7	47.8	63.5	77		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 21 QC Batch ID: WG1731076-3 QC Sample: L2300989-03 Client ID: MS Sample												
Lead, Total	12.6	45.2	56.6	97		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300373

Report Date: 01/13/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 20,22 QC Batch ID: WG1730143-4 QC Sample: L2300289-01 Client ID: DUP Sample						
Lead, Total	26.7	24.3	mg/kg	9		20
Total Metals - Mansfield Lab Associated sample(s): 21 QC Batch ID: WG1731076-4 QC Sample: L2300989-03 Client ID: DUP Sample						
Lead, Total	12.6	10.6	mg/kg	17		20

INORGANICS
&
MISCELLANEOUS

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300373
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-01
Client ID: GPR794-09-1.5-2.0
Sample Location: Not Specified
Sample Depth:
Matrix: Soil

Date Collected: 01/03/23 08:45
Date Received: 01/04/23
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.4		%	0.100	NA	1	-	01/05/23 08:02	121,2540G	RI

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300373
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-02
Client ID: GPR794-09-2.0-2.5
Sample Location: Not Specified
Sample Depth:
Matrix: Soil

Date Collected: 01/03/23 08:55
Date Received: 01/04/23
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.2		%	0.100	NA	1	-	01/05/23 08:02	121,2540G	RI

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300373
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-03
Client ID: GPR794-09-2.0-2.5D
Sample Location: Not Specified
Sample Depth:
Matrix: Soil

Date Collected: 01/03/23 08:55
Date Received: 01/04/23
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.0		%	0.100	NA	1	-	01/05/23 08:02	121,2540G	RI

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300373
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-05
Client ID: GPR794-10-1.5-2.0
Sample Location: Not Specified

Date Collected: 01/03/23 09:45
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.7		%	0.100	NA	1	-	01/05/23 08:02	121,2540G	RI

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300373
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-07
Client ID: GPR790-08-0.0-0.5
Sample Location: Not Specified

Date Collected: 01/03/23 10:20
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.3		%	0.100	NA	1	-	01/05/23 08:02	121,2540G	RI

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300373
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-08
Client ID: TG07-MW-04-1.5-2.0
Sample Location: Not Specified
Sample Depth:
Matrix: Soil

Date Collected: 01/03/23 11:00
Date Received: 01/04/23
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.2		%	0.100	NA	1	-	01/05/23 08:02	121,2540G	RI

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300373
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-09
Client ID: TG07-MW-04-2.0-2.5
Sample Location: Not Specified
Sample Depth:
Matrix: Soil

Date Collected: 01/03/23 11:10
Date Received: 01/04/23
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	76.8		%	0.100	NA	1	-	01/06/23 17:00	121,2540G	MF

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300373
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-10
Client ID: GPR799-08-1.0-1.5
Sample Location: Not Specified

Date Collected: 01/03/23 11:30
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.4		%	0.100	NA	1	-	01/05/23 08:02	121,2540G	RI

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300373
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-11
Client ID: GPR799-08-3.0-3.5
Sample Location: Not Specified
Sample Depth:
Matrix: Soil

Date Collected: 01/03/23 11:40
Date Received: 01/04/23
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	77.2		%	0.100	NA	1	-	01/05/23 08:02	121,2540G	RI

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300373
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-12
Client ID: GPR791-09-0.0-0.5
Sample Location: Not Specified
Sample Depth:
Matrix: Soil

Date Collected: 01/03/23 12:05
Date Received: 01/04/23
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.6		%	0.100	NA	1	-	01/05/23 08:02	121,2540G	RI

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300373
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-13
Client ID: GPR791-09-2.0-2.5
Sample Location: Not Specified

Date Collected: 01/03/23 12:10
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.0		%	0.100	NA	1	-	01/05/23 08:02	121,2540G	RI

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300373
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-15
Client ID: GPR793-03R-2.5-3.0
Sample Location: Not Specified

Date Collected: 01/03/23 12:45
Date Received: 01/04/23
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.8		%	0.100	NA	1	-	01/05/23 08:02	121,2540G	RI

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300373
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-16
Client ID: GPR793-03R-3.0-3.5
Sample Location: Not Specified
Sample Depth:
Matrix: Soil

Date Collected: 01/03/23 13:00
Date Received: 01/04/23
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.5		%	0.100	NA	1	-	01/06/23 17:00	121,2540G	MF

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300373
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-17
Client ID: GPR792-03R-1.5-2.0
Sample Location: Not Specified
Sample Depth:
Matrix: Soil

Date Collected: 01/03/23 13:20
Date Received: 01/04/23
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.1		%	0.100	NA	1	-	01/05/23 08:02	121,2540G	RI

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300373
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-18
Client ID: GPR792-03R-2.0-2.5
Sample Location: Not Specified
Sample Depth:
Matrix: Soil

Date Collected: 01/03/23 13:30
Date Received: 01/04/23
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.1		%	0.100	NA	1	-	01/06/23 17:00	121,2540G	MF

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300373
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-19
Client ID: GPR1117-03R-0.0-0.5
Sample Location: Not Specified
Sample Depth:
Matrix: Soil

Date Collected: 01/03/23 14:40
Date Received: 01/04/23
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.6		%	0.100	NA	1	-	01/05/23 08:02	121,2540G	RI

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300373
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-20
Client ID: PB-847-15R-6.0-6.5
Sample Location: Not Specified
Sample Depth:
Matrix: Soil

Date Collected: 01/04/23 09:00
Date Received: 01/04/23
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.7		%	0.100	NA	1	-	01/05/23 08:02	121,2540G	RI

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300373
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-21
Client ID: PB-847-15R-17.0-17.5
Sample Location: Not Specified
Sample Depth:
Matrix: Soil

Date Collected: 01/04/23 09:10
Date Received: 01/04/23
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.7		%	0.100	NA	1	-	01/06/23 17:00	121,2540G	MF

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300373
Report Date: 01/13/23

SAMPLE RESULTS

Lab ID: L2300373-22
Client ID: TG02-MW-18-15.5-16.0
Sample Location: Not Specified
Sample Depth:
Matrix: Soil

Date Collected: 01/04/23 10:15
Date Received: 01/04/23
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	72.2		%	0.100	NA	1	-	01/05/23 08:16	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300373

Report Date: 01/13/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03,05,07-08,10-13,15,17,19-20 QC Batch ID: WG1730150-1 QC Sample: L2300262-01 Client ID: DUP Sample						
Solids, Total	91.4	92.1	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 22 QC Batch ID: WG1730152-1 QC Sample: L2300472-01 Client ID: DUP Sample						
Solids, Total	78.1	76.4	%	2		20
General Chemistry - Westborough Lab Associated sample(s): 09,16,18,21 QC Batch ID: WG1730839-1 QC Sample: L2300373-09 Client ID: TG07-MW-04-2.0-2.5						
Solids, Total	76.8	78.0	%	2		20

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300373
Report Date: 01/13/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2300373-01A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-01B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-01C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-01D	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		TS(7)
L2300373-01E	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		PA-PAH(14)
L2300373-01X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-01Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-01Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-02A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-02B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-02C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-02D	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		TS(7)
L2300373-02E	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		PA-PAH(14)
L2300373-02X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-02Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-02Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-03A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-03B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-03C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-03D	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		TS(7)
L2300373-03E	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		PA-PAH(14)
L2300373-03X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-03Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300373
Report Date: 01/13/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2300373-03Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-04A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)
L2300373-04B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)
L2300373-04C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)
L2300373-04D	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		HOLD-WETCHEM()
L2300373-04E	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		HOLD-8270(14)
L2300373-04X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)
L2300373-04Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	HOLD-8260HLW(14)
L2300373-04Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	HOLD-8260HLW(14)
L2300373-05A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-05B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-05C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-05D	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		TS(7)
L2300373-05E	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		PA-PAH(14)
L2300373-05X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-05Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-05Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-06A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)
L2300373-06B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)
L2300373-06C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)
L2300373-06D	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		HOLD-WETCHEM()
L2300373-06E	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		HOLD-8270(14)
L2300373-06X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)
L2300373-06Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	HOLD-8260HLW(14)
L2300373-06Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	HOLD-8260HLW(14)
L2300373-07A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-07B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-07C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300373
Report Date: 01/13/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2300373-07D	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		TS(7)
L2300373-07E	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		PA-PAH(14)
L2300373-07X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-07Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-07Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-08A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-08B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-08C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-08D	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		TS(7)
L2300373-08E	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		PA-PAH(14)
L2300373-08X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-08Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-08Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-09A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-09B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-09C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-09D	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		TS(7)
L2300373-09E	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		PA-PAH(14)
L2300373-09X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-09Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-09Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-10A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-10B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-10C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-10D	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		TS(7)
L2300373-10E	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		PA-PAH(14)
L2300373-10X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-10Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300373
Report Date: 01/13/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2300373-10Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-11A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-11B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-11C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-11D	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		TS(7)
L2300373-11E	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		PA-PAH(14)
L2300373-11X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-11Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-11Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-12A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-12B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-12C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-12D	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		TS(7)
L2300373-12E	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		PA-PAH(14)
L2300373-12X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-12Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-12Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-13A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-13B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-13C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-13D	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		TS(7)
L2300373-13E	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		PA-PAH(14)
L2300373-13X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-13Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-13Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-14A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)
L2300373-14B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)
L2300373-14C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300373
Report Date: 01/13/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2300373-14D	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		HOLD-WETCHEM()
L2300373-14E	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		HOLD-8270(14)
L2300373-14X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)
L2300373-14Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	HOLD-8260HLW(14)
L2300373-14Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	HOLD-8260HLW(14)
L2300373-15A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-15B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-15C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-15D	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		TS(7)
L2300373-15E	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		PA-PAH(14)
L2300373-15X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-15Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-15Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-16A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-16B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-16C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-16D	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		TS(7)
L2300373-16E	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		PA-PAH(14)
L2300373-16X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-16Y	Vial Water preserved split	A	NA		5.2	Y	Absent	**06-JAN-23 13:16**	PA-8260HLW(14)
L2300373-16Z	Vial Water preserved split	A	NA		5.2	Y	Absent	**06-JAN-23 13:16**	PA-8260HLW(14)
L2300373-17A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-17B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-17C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-17D	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		TS(7)
L2300373-17E	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		PA-PAH(14)
L2300373-17X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-17Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300373
Report Date: 01/13/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2300373-17Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-18A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-18B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-18C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-18D	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		TS(7)
L2300373-18E	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		PA-PAH(14)
L2300373-18X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-18Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-18Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-19A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-19B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-19C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-19D	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		TS(7)
L2300373-19E	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		PA-PAH(14)
L2300373-19X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-19Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-19Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-20A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-20B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-20C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-20D	Glass 60mL/2oz unpreserved	A	NA		5.2	Y	Absent		PB-TI(180)
L2300373-20E	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		TS(7)
L2300373-20F	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		PA-PAH(14)
L2300373-20X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-20Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-20Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:03	PA-8260HLW(14)
L2300373-21A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2300373-21B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260H(14),PA-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300373
Report Date: 01/13/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2300373-21C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2300373-21D	Glass 60mL/2oz unpreserved	A	NA		5.2	Y	Absent		PB-TI(180)
L2300373-21E	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		TS(7)
L2300373-21F	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		PA-PAH(14)
L2300373-21X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		PA-8260H(14),PA-8260HLW(14)
L2300373-21Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:05	PA-8260H(14),PA-8260HLW(14)
L2300373-21Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:05	PA-8260H(14),PA-8260HLW(14)
L2300373-22A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-22B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-22C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-22D	Glass 60mL/2oz unpreserved	A	NA		5.2	Y	Absent		PB-TI(180)
L2300373-22E	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		TS(7)
L2300373-22F	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		PA-PAH(14)
L2300373-22X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		PA-8260HLW(14)
L2300373-22Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:05	PA-8260HLW(14)
L2300373-22Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:05	PA-8260HLW(14)
L2300373-23A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)
L2300373-23B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)
L2300373-23C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)
L2300373-23D	Glass 60mL/2oz unpreserved	A	NA		5.2	Y	Absent		HOLD-METAL(180)
L2300373-23E	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		HOLD-WETCHEM()
L2300373-23F	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		HOLD-8270(14)
L2300373-23X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)
L2300373-23Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:05	HOLD-8260HLW(14)
L2300373-23Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:05	HOLD-8260HLW(14)
L2300373-24A	5 gram Encore Sampler	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)
L2300373-24B	5 gram Encore Sampler	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)
L2300373-24C	5 gram Encore Sampler	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300373
Report Date: 01/13/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2300373-24D	Glass 60mL/2oz unpreserved	A	NA		5.2	Y	Absent		HOLD-METAL(180)
L2300373-24E	Plastic 2oz unpreserved for TS	A	NA		5.2	Y	Absent		HOLD-WETCHEM()
L2300373-24F	Glass 120ml/4oz unpreserved	A	NA		5.2	Y	Absent		HOLD-8270(14)
L2300373-24X	Vial MeOH preserved split	A	NA		5.2	Y	Absent		HOLD-8260HLW(14)
L2300373-24Y	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:05	HOLD-8260HLW(14)
L2300373-24Z	Vial Water preserved split	A	NA		5.2	Y	Absent	05-JAN-23 07:05	HOLD-8260HLW(14)
L2300373-25A	Vial HCl preserved	A	NA		5.2	Y	Absent		PA-8260(14)
L2300373-25B	Vial HCl preserved	A	NA		5.2	Y	Absent		PA-8260(14)

*Values in parentheses indicate holding time in days

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2300373
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GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

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Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

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REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE____ OF ____

Date Rec'd in Lab: 1/5/23

ALPHA Job #: L2300373

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Terraphase Engineering
Address: 1100 E Hector St
Conshohocken, Pa
Phone: 215-297-3502
Fax:
Email: nicki.scala@terraphase.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Former Phila Refinery
Project Location:
Project #: P0414.001.002
Project Manager:
ALPHA Quote #:

Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved) 48 hr
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program	Criteria

Other Project Specific Requirements/Comments/Detection Limits:
EDD @ terraphase.com
EDD Format Equis

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	8260-Benzene, Cumene, Naphthalene, MTBE, 1,2,4-TMB, 1,3,5-TMB	8270-Benzo(a)anthracene, Naphthalene	8260-Benzene, Cumene, Naphthalene, MTBE, 1,2,4-TMB, 1,3,5-TMB, Xylenes, 1,2-DCA	8260-Benzene, Toluene, Ethylbenzene, Xylenes, MTBE, 1,2,4-TMB, 1,3,5-TMB, Cumene	6020-Lead	SAMPLE HANDLING Filtration ☐ Done ☐ Not needed ☐ Lab to do Preservation ☐ Lab to do (Please specify below)	Sample Specific Comments	TOTAL # BOTTLES
00373-01	GPR794-09-1.5-2.0	1/3/23	845	SO	SMM	X		X				Rush/Analyze	
02	GPR794-09-2.0-2.5	1/3/23	855	SO	SMM	X		X				Rush/Analyze	
03	GPR794-09-2.0-2.5D	1/3/23	855	SO	SMM	X		X				Rush/Analyze	
04	GPR794-09-3.0-3.5	1/3/23	905	SO	SMM	H		H				Rush/Hold	
05	GPR794-10-1.5-2.0	1/3/23	945	SO	SMM	X		X				Rush/Analyze	
06	GPR794-10-2.0-2.5	1/3/23	950	SO	SMM	H		H				Rush/Hold	
07	GPR790-08-0.0-0.5	1/3/23	1020	SO	SMM	X		X				Rush/Analyze	
08	TGGT-MW-04-1.5-2.0	1/3/23	1100	SO	SMM	X		X				Rush/Analyze	
09	TGGT-MW-04-2.0-2.5	1/3/23	1110	SO	SMM	H		H				Rush/Hold	
10	GPR799-08-1.0-1.5	1/3/23	1130	SO	SMM	X		X				Rush/Analyze	
					Container Type								
					Preservative								

Relinquished By:	Date/Time	Received By:	Date/Time
	1/4/23 1510		1/4/23 1510
	1/4/23 1800		1/4/23 1800
	1/4/23 2300		1.4.23 2100

SOIL/GW 1/5/23 0120

1/5/22 0120

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

CHAIN OF CUSTODY

PAGE _____ OF _____

Date Rec'd in Lab: 1/5/23

ALPHA Job #: L2300373

ALPHA
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Terraphase Engineering
Address: 1100 E Hector St, Ste 416
Conshohocken, Pa 19428
Phone: 215-297-3502
Fax:
Email: nick.scala@terraphase.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Former Philadelphia Refinery AST Closure
Project Location:
Project #: P044.001.002
Project Manager: Nick Scala
ALPHA Quote #:

Turn-Around Time

☒ Standard ☒ RUSH (only confirmed if pre-approved!)
Date Due: 48hr Time:

Report Information - Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program	Criteria

Other Project Specific Requirements/Comments/Detection Limits:
EDD@terraphase.com
EDD Format Equis

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: 8260-Benzene,Ethylbenzene,Methyl tert-butyl ether,Naphthalene,Toluene,Total Xylenes,1,3,5-TMB,1,2,4-TMB	8270-Benzo(a)anthracene,Benzo(b)fluoranthene,Benzo(k)fluoranthene,Chrysene,Naphthalene	TCLP	SAMPLE HANDLING: Filtration ☐ Done ☐ Not needed ☐ Lab to do Preservation ☐ Lab to do (Please specify below)	Sample Specific Comments	TOTAL # BOTTLES
00373-11	GPR799-08-5.0-5.5	1/3/23	1140	SO	SMM	X	X			Rush/Analyze	
12	GPR791-09-0.0-0.5	1/3/23	1205	SO	SMM	X	X			Rush/Analyze	
13	GPR791-09-2.0-2.5	1/3/23	1210	SO	SMM	X	X			Rush/Analyze	
14	GPR791-09-2.5-3.0	1/3/23	1215	SO	SMM	H	H			Rush/Hold	
15	GPR793-03R-2.5-3.0	1/3/23	1245	SO	SMM	X	X			Rush/Analyze	
16	GPR793-03R-3.0-3.5	1/3/23	1300	SO	SMM	H	H			Rush/Hold	
17	GPR792-03R-1.5-2.0	1/3/23	1320	SO	SMM	X	X			Rush/Analyze	
18	GPR792-03R-2.0-2.5	1/3/23	1330	SO	SMM	H	H			Rush/Hold	
19	GPR1117-03R-0.0-0.5	1/3/23	1440	SO	SMM	X	X			Rush/Analyze	
20	PB-847-15R-6.0-6.5	1/04/23	900	SO	SMM	X	X	X		Rush/Analyze	

Container Type																	
Preservative																	

Relinquished By:	Date/Time	Received By:	Date/Time
	1/4/23 1570	STL ADL	1/4/23 15:10
STL	1/4/23 1800		1/4/22 1800
ADL	1/4/23 2100		1-4-23 2400

1/5/22 0120

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

CHAIN OF CUSTODY

PAGE ____ OF ____

Date Rec'd in Lab: 1/5/23

ALPHA Job #: L2300373

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Terraphase Engineering
Address: 1100 C Hector St
Conshohocken, Pa. 19428
Phone: 215-297-3502
Fax:
Email: nick.scala@terraphase.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Former Phila Refinery AST
Project Location: Bucks
Project #: P0414.001.002
Project Manager: Nick Scala
ALPHA Quote #:

Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved) 48hr
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:
EDD@terraphase.com
EDD Forms

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	8260 - Benzene, Ethylbenzene, Methylene chloride, MTBE, Toluene, Xylenes	8270 - Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene	8260 - Benzene, Ethylbenzene, Toluene, Xylenes, MTBE, 1,3,5-TMB, 1,2,4-TMB	8270 - Naphthalene	8260 - Benzene, Ethylbenzene, Toluene, Xylenes, MTBE, 1,3,5-TMB, 1,2,4-TMB	8270 - Naphthalene	6020 - Lead	Sample Specific Comments	TOTAL # BOTTLES
00373-21	PB-847-15R-17.0-17.5	1/4/23	910	SO	SMM		H	H				H	Rush/Hold	
22	T602-MW-18-15.5-16.0	1/4/23	1015	SO	SMM				X	X		X	Standard TAT/Analyze	
23	T601-MW-02-6.5-7.0	1/4/23	1240	SO	SMM	H					H	H	Standard TAT/Hold	
24	T601-MW-02-7.0-7.5	1/4/23	1255	SO	SMM	H					H	H	Standard TAT/Hold	
25	TB-230104-1	1/4/23	1458	TO	SMM	X							Analyze for Full 8260 VOCs	

SAMPLE HANDLING
Filtration
☐ Done ☐ Not needed ☐ Lab to do
Preservation
☐ Lab to do (Please specify below)

Container Type														
Preservative														

Relinquished By:	Date/Time	Received By:	Date/Time
	1/4/23 1570	STm AAL	1/4/23 15:10
	1/4/23 1800		1/4/23 1800
	1/4/23 2100		1-4-23 2100

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

1/5/23 0120

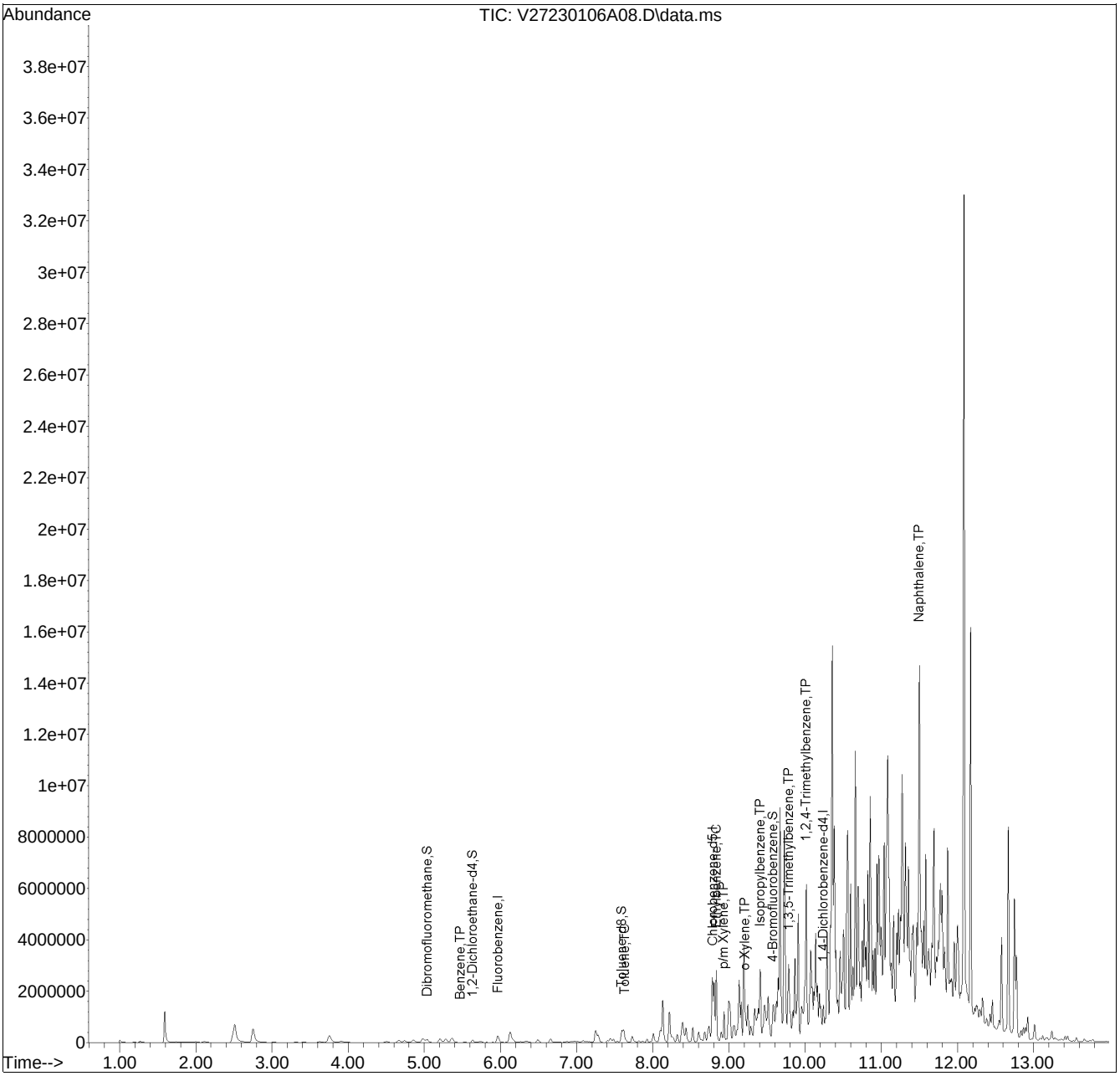
1/5/22 0120

Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA127\2023\230106A\
Data File : V27230106A08.D
Acq On : 06 Jan 2023 09:40 am
Operator : VOA127:JIC
Sample : L2300373-20,31H,5.78,5,0.100,,X,R3B
Misc : WG1730717,ICAL19627
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 06 10:20:59 2023
Quant Method : I:\VOLATILES\VOA127\2023\230106A\V127_221227N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Wed Dec 28 14:42:32 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list06A\V27230106A01.D•

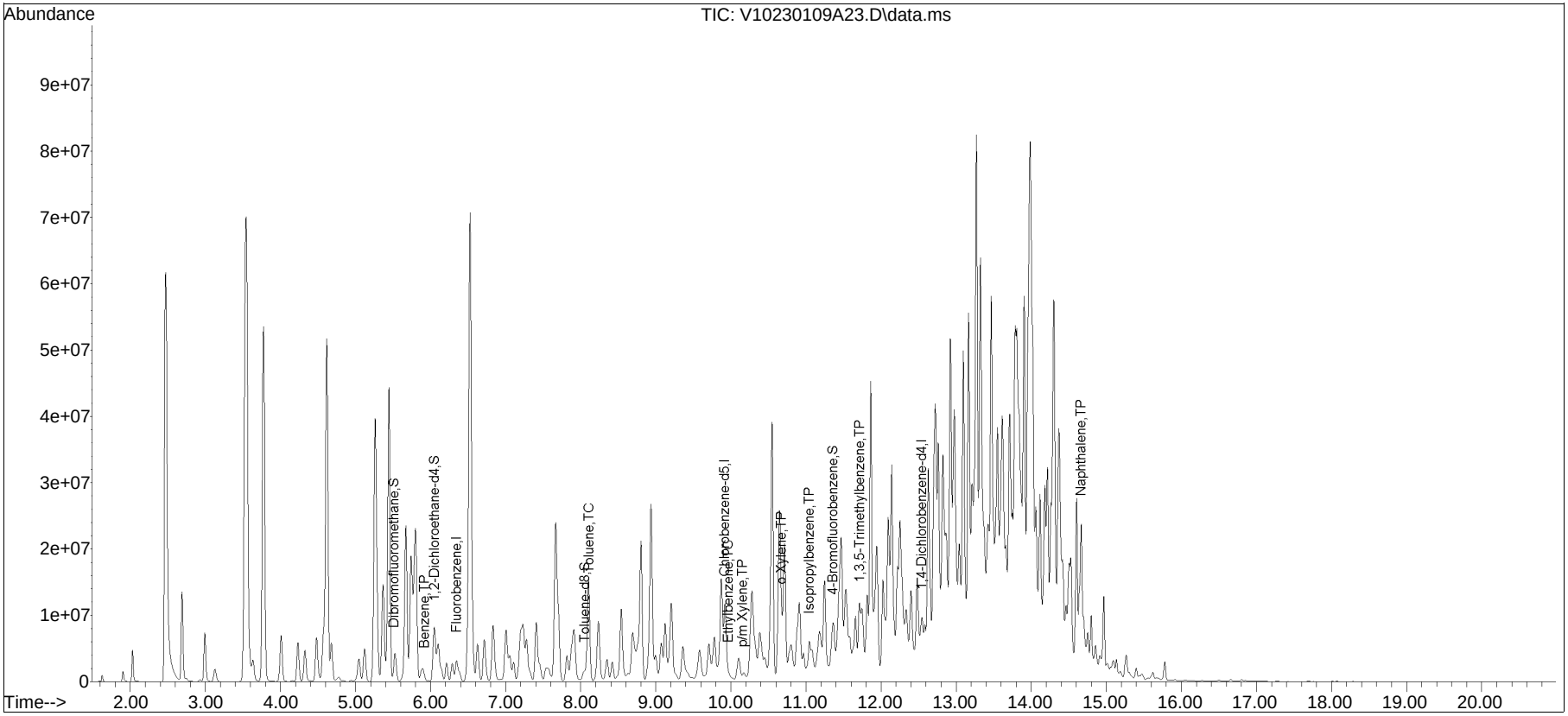


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA110\2023\230109A\
Data File : V10230109A23.D
Acq On : 9 Jan 2023 10:53 pm
Operator : VOA110:JIC
Sample : l2300373-21,31,6.22,5,,z,r3b
Misc : WG1731733,ICAL19281
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Jan 10 08:29:30 2023
Quant Method : I:\VOLATILES\VOA110\2023\230109A\V110_220822N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Aug 23 09:34:28 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list09A\V10230109A02.D•

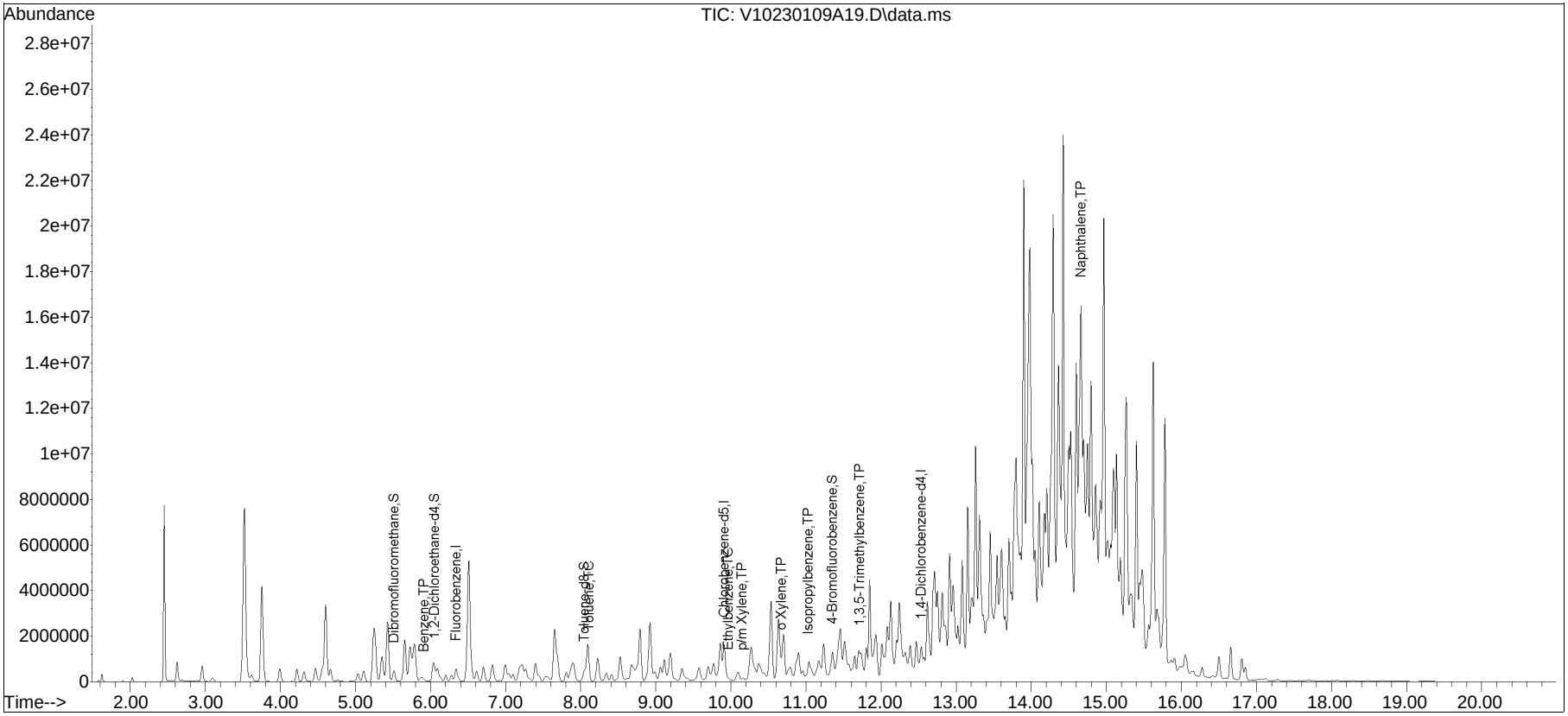


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\VOA110\2023\230109A\
Data File : V10230109A19.D
Acq On : 9 Jan 2023 9:05 pm
Operator : VOA110:JIC
Sample : l2300373-21,31h,6.58,5,0.100,,x,r3b
Misc : WG1731736,ICAL19281
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jan 10 08:27:54 2023
Quant Method : I:\VOLATILES\VOA110\2023\230109A\V110_220822N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Tue Aug 23 09:34:28 2022
Response via : Initial Calibration

Sub List : 8260-PA_ShortList - PA Short list09A\V10230109A02.D•



ANALYTICAL REPORT

Lab Number:	L2300961
Client:	Terraphase Engineering Inc. 100 Canal Pointe Boulevard Suite 100 Princeton, NJ 08540
ATTN:	Nick Scala
Phone:	(609) 236-8171
Project Name:	FORMER PHILADELPHIA REFINERY
Project Number:	P044.001.002
Report Date:	03/01/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300961
Report Date: 03/01/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2300961-01	TG07-MW-05-230105	WATER	3144 W PASSYUNK AVE.	01/05/23 09:50	01/06/23
L2300961-02	TG07-MW-04-230105	WATER	3144 W PASSYUNK AVE.	01/05/23 11:05	01/06/23
L2300961-03	TG07-MW-01-230105	WATER	3144 W PASSYUNK AVE.	01/05/23 14:20	01/06/23
L2300961-04	TG07-MW-08-230105	WATER	3144 W PASSYUNK AVE.	01/05/23 15:05	01/06/23
L2300961-05	TG04-MW-01-230106	WATER	3144 W PASSYUNK AVE.	01/06/23 10:30	01/06/23
L2300961-06	S-219-230106	WATER	3144 W PASSYUNK AVE.	01/06/23 09:50	01/06/23
L2300961-07	TB-230106-2	WATER	3144 W PASSYUNK AVE.	01/06/23 00:00	01/06/23

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2300961
Project Number:	P044.001.002	**Report Date:**	03/01/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2300961
Project Number:	P044.001.002	**Report Date:**	03/01/23

Case Narrative (continued)

Report Revision

March 01, 2023: The Semivolatile Organics by SIM analyte list has been amended on L2300961-05 and -06.

January 11, 2023: This report includes the results of the 1,2-Dibromoethane by Method 8260D performed on L2300961-01 through -07.

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Caitlin Walukevich

Title: Technical Director/Representative

Date: 03/01/23

ORGANICS

VOLATILES

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300961
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-01
Client ID: TG07-MW-05-230105
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/05/23 09:50
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 01/09/23 13:59
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 01/09/23 10:06

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300961

Project Number: P044.001.002 **Report Date:** 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-01 D
Client ID: TG07-MW-05-230105
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/05/23 09:50
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 01/07/23 17:50
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	100	17.	100
Benzene	11000		ug/l	50	16.	100
1,2-Dichloroethane	ND		ug/l	50	13.	100
Toluene	200		ug/l	75	20.	100
1,2-Dibromoethane	ND		ug/l	200	19.	100
Ethylbenzene	34	J	ug/l	50	17.	100
p/m-Xylene	41	J	ug/l	100	33.	100
o-Xylene	ND		ug/l	100	39.	100
Xylenes, Total	41	J	ug/l	100	33.	100
Isopropylbenzene	7200		ug/l	50	19.	100
1,3,5-Trimethylbenzene	ND		ug/l	250	22.	100
1,2,4-Trimethylbenzene	30	J	ug/l	250	19.	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	93		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300961
Project Number: P044.001.002
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-02
Client ID: TG07-MW-04-230105
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/05/23 11:05
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 01/09/23 14:07
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 01/09/23 10:06

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300961

Project Number: P044.001.002 **Report Date:** 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-02 D
Client ID: TG07-MW-04-230105
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/05/23 11:05
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 01/07/23 17:27
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	2.0	0.33	2
Benzene	36		ug/l	1.0	0.32	2
1,2-Dichloroethane	ND		ug/l	1.0	0.26	2
Toluene	3.8		ug/l	1.5	0.41	2
1,2-Dibromoethane	ND		ug/l	4.0	0.39	2
Ethylbenzene	1.9		ug/l	1.0	0.33	2
p/m-Xylene	4.7		ug/l	2.0	0.66	2
o-Xylene	2.0		ug/l	2.0	0.78	2
Xylenes, Total	6.7		ug/l	2.0	0.66	2
Isopropylbenzene	290		ug/l	1.0	0.37	2
1,3,5-Trimethylbenzene	0.72	J	ug/l	5.0	0.43	2
1,2,4-Trimethylbenzene	1.4	J	ug/l	5.0	0.38	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	83		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300961
Project Number: P044.001.002
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-03
Client ID: TG07-MW-01-230105
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/05/23 14:20
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 01/09/23 14:16
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 01/09/23 10:06

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300961
Project Number: P044.001.002
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-03
Client ID: TG07-MW-01-230105
Sample Location: 3144 W PASSYUNK AVE.
Date Collected: 01/05/23 14:20
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 01/07/23 17:04
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	0.34	J	ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	0.25	J	ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	99		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300961
Project Number: P044.001.002
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-04
Client ID: TG07-MW-08-230105
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/05/23 15:05
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 01/09/23 14:24
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 01/09/23 10:06

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300961

Project Number: P044.001.002 **Report Date:** 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-04 D
Client ID: TG07-MW-08-230105
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/05/23 15:05
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 01/07/23 16:41
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	25	4.2	25
Benzene	ND		ug/l	12	4.0	25
1,2-Dichloroethane	ND		ug/l	12	3.3	25
Toluene	ND		ug/l	19	5.1	25
1,2-Dibromoethane	ND		ug/l	50	4.8	25
Ethylbenzene	ND		ug/l	12	4.2	25
p/m-Xylene	ND		ug/l	25	8.3	25
o-Xylene	ND		ug/l	25	9.8	25
Xylenes, Total	ND		ug/l	25	8.3	25
Isopropylbenzene	4400		ug/l	12	4.7	25
1,3,5-Trimethylbenzene	ND		ug/l	62	5.4	25
1,2,4-Trimethylbenzene	ND		ug/l	62	4.8	25

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	96		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300961
Project Number: P044.001.002
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-05
Client ID: TG04-MW-01-230106
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/06/23 10:30
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 01/09/23 14:33
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 01/09/23 10:06

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300961

Project Number: P044.001.002 **Report Date:** 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-05 D
Client ID: TG04-MW-01-230106
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/06/23 10:30
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 01/07/23 16:18
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	5.0	0.83	5
Benzene	580		ug/l	2.5	0.80	5
1,2-Dichloroethane	ND		ug/l	2.5	0.66	5
Toluene	11		ug/l	3.8	1.0	5
1,2-Dibromoethane	ND		ug/l	10	0.96	5
Ethylbenzene	110		ug/l	2.5	0.84	5
p/m-Xylene	170		ug/l	5.0	1.7	5
o-Xylene	16		ug/l	5.0	2.0	5
Xylenes, Total	190		ug/l	5.0	1.7	5
Isopropylbenzene	75		ug/l	2.5	0.94	5
1,3,5-Trimethylbenzene	13		ug/l	12	1.1	5
1,2,4-Trimethylbenzene	54		ug/l	12	0.96	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	91		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300961
Project Number: P044.001.002
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-06
Client ID: S-219-230106
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/06/23 09:50
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 01/09/23 14:41
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 01/09/23 10:06

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300961

Project Number: P044.001.002 **Report Date:** 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-06 Date Collected: 01/06/23 09:50
Client ID: S-219-230106 Date Received: 01/06/23
Sample Location: 3144 W PASSYUNK AVE. Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 01/07/23 15:54
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	0.28	J	ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	98		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300961
Project Number: P044.001.002
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-07
Client ID: TB-230106-2
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/06/23 00:00
Date Received: 01/06/23
Field Prep: None

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 01/09/23 14:50
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 01/09/23 10:06

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300961

Project Number: P044.001.002 **Report Date:** 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-07 Date Collected: 01/06/23 00:00
Client ID: TB-230106-2 Date Received: 01/06/23
Sample Location: 3144 W PASSYUNK AVE. Field Prep: None

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 01/07/23 15:31
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	98		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300961
Report Date: 03/01/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 01/09/23 11:35
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 01/09/23 10:06

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01-07 Batch: WG1730665-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300961

Project Number: P044.001.002 **Report Date:** 03/01/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 01/07/23 13:35
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-07 Batch: WG1731384-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
1,2-Dibromoethane	ND		ug/l	2.0	0.19
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300961

Report Date: 03/01/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 01-07 Batch: WG1730665-2								
1,2-Dibromoethane	117		-		80-120	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300961

Report Date: 03/01/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-07 Batch: WG1731384-3 WG1731384-4								
Methyl tert butyl ether	84		92		63-130	9		20
Benzene	95		98		70-130	3		20
1,2-Dichloroethane	88		91		70-130	3		20
Toluene	99		100		70-130	1		20
1,2-Dibromoethane	97		99		70-130	2		20
Ethylbenzene	96		97		70-130	1		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	95		95		70-130	0		20
Isopropylbenzene	99		100		70-130	1		20
1,3,5-Trimethylbenzene	99		100		64-130	1		20
1,2,4-Trimethylbenzene	99		100		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		99		70-130
Toluene-d8	105		105		70-130
4-Bromofluorobenzene	107		110		70-130
Dibromofluoromethane	94		95		70-130

SEMIVOLATILES

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300961
Project Number: P044.001.002
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-01
Client ID: TG07-MW-05-230105
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/05/23 09:50
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 01/10/23 16:29
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 01/10/23 12:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	17		ug/l	0.10	0.05	1
Fluorene	2.7		ug/l	0.10	0.01	1
Phenanthrene	2.4		ug/l	0.05	0.02	1
Anthracene	0.27		ug/l	0.10	0.01	1
Pyrene	0.22		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.07		ug/l	0.05	0.02	1
Chrysene	0.04	J	ug/l	0.10	0.01	1
Benzo(b)fluoranthene	0.03	J	ug/l	0.05	0.01	1
Benzo(a)pyrene	0.04	J	ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	0.01	J	ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	110		23-120
2-Fluorobiphenyl	66		15-120
4-Terphenyl-d14	57		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300961
Project Number: P044.001.002
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-02
Client ID: TG07-MW-04-230105
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/05/23 11:05
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 01/08/23 13:53
Analyst: WR

Extraction Method: EPA 3510C
Extraction Date: 01/07/23 07:42

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	4.8		ug/l	0.10	0.01	1
Phenanthrene	4.6		ug/l	0.05	0.02	1
Anthracene	0.43		ug/l	0.10	0.01	1
Pyrene	0.42		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.14		ug/l	0.05	0.02	1
Chrysene	0.11		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	0.07		ug/l	0.05	0.01	1
Benzo(a)pyrene	0.07	J	ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	0.02	J	ug/l	0.10	0.01	1
Benzo(ghi)perylene	0.02	J	ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	116		23-120
2-Fluorobiphenyl	91		15-120
4-Terphenyl-d14	102		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300961
Project Number: P044.001.002
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-03
Client ID: TG07-MW-01-230105
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/05/23 14:20
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 01/08/23 14:09
Analyst: WR

Extraction Method: EPA 3510C
Extraction Date: 01/07/23 07:42

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	0.13		ug/l	0.10	0.01	1
Phenanthrene	0.20		ug/l	0.05	0.02	1
Anthracene	0.05	J	ug/l	0.10	0.01	1
Pyrene	0.14		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.08		ug/l	0.05	0.02	1
Chrysene	0.03	J	ug/l	0.10	0.01	1
Benzo(b)fluoranthene	0.02	J	ug/l	0.05	0.01	1
Benzo(a)pyrene	0.02	J	ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	0.01	J	ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	116		23-120
2-Fluorobiphenyl	88		15-120
4-Terphenyl-d14	81		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300961
Project Number: P044.001.002
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-04
Client ID: TG07-MW-08-230105
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/05/23 15:05
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 01/08/23 14:25
Analyst: WR

Extraction Method: EPA 3510C
Extraction Date: 01/07/23 07:42

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	3.1		ug/l	0.10	0.05	1
Fluorene	2.9		ug/l	0.10	0.01	1
Phenanthrene	1.8		ug/l	0.05	0.02	1
Anthracene	0.24		ug/l	0.10	0.01	1
Pyrene	0.86		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.18		ug/l	0.05	0.02	1
Chrysene	0.07	J	ug/l	0.10	0.01	1
Benzo(b)fluoranthene	0.03	J	ug/l	0.05	0.01	1
Benzo(a)pyrene	0.02	J	ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	0.01	J	ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	113		23-120
2-Fluorobiphenyl	87		15-120
4-Terphenyl-d14	104		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300961
Project Number: P044.001.002
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-05
Client ID: TG04-MW-01-230106
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/06/23 10:30
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 01/08/23 15:14
Analyst: WR

Extraction Method: EPA 3510C
Extraction Date: 01/07/23 07:42

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	9.4		ug/l	0.10	0.05	1
Fluorene	0.92		ug/l	0.10	0.01	1
Phenanthrene	0.25		ug/l	0.05	0.02	1
Anthracene	0.11		ug/l	0.10	0.01	1
Pyrene	0.06	J	ug/l	0.10	0.02	1
Benzo(a)anthracene	0.10		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**135**	Q	23-120
2-Fluorobiphenyl	99		15-120
4-Terphenyl-d14	96		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300961
Project Number: P044.001.002
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-06
Client ID: S-219-230106
Sample Location: 3144 W PASSYUNK AVE.

Date Collected: 01/06/23 09:50
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 01/08/23 15:30
Analyst: WR

Extraction Method: EPA 3510C
Extraction Date: 01/07/23 07:42

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.18		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**121**	Q	23-120
2-Fluorobiphenyl	92		15-120
4-Terphenyl-d14	93		41-149

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300961

Project Number: P044.001.002 **Report Date:** 03/01/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270E-SIM
Analytical Date: 01/06/23 18:22
Analyst: AH

Extraction Method: EPA 3510C
Extraction Date: 01/06/23 08:28

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 02-06 Batch: WG1730640-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	0.03	J	ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	0.04	J	ug/l	0.10	0.02
Benzo(a)anthracene	0.02	J	ug/l	0.05	0.02
Chrysene	0.02	J	ug/l	0.10	0.01
Benzo(b)fluoranthene	0.01	J	ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	111		23-120
2-Fluorobiphenyl	71		15-120
4-Terphenyl-d14	88		41-149

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2300961

Project Number: P044.001.002 **Report Date:** 03/01/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270E-SIM
Analytical Date: 01/10/23 16:12
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 01/10/23 12:08

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1731825-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.05	0.02
Anthracene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
Benzo(a)anthracene	ND		ug/l	0.05	0.02
Chrysene	ND		ug/l	0.10	0.01
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01
Benzo(ghi)perylene	ND		ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	104		23-120
2-Fluorobiphenyl	69		15-120
4-Terphenyl-d14	67		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300961
Report Date: 03/01/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 02-06 Batch: WG1730640-2 WG1730640-3								
Naphthalene	51		81		40-140	**45**	Q	40
Fluorene	65		86		40-140	28		40
Phenanthrene	70		87		40-140	22		40
Anthracene	72		89		40-140	21		40
Pyrene	83		100		26-127	19		40
Benzo(a)anthracene	78		92		40-140	16		40
Chrysene	78		91		40-140	15		40
Benzo(b)fluoranthene	77		95		40-140	21		40
Benzo(a)pyrene	81		97		40-140	18		40
Indeno(1,2,3-cd)pyrene	86		101		40-140	16		40
Benzo(ghi)perylene	79		93		40-140	16		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	84		**125**	Q	23-120
2-Fluorobiphenyl	56		80		15-120
4-Terphenyl-d14	85		101		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300961
Report Date: 03/01/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1731825-2 WG1731825-3								
Naphthalene	55		66		40-140	18		40
Fluorene	60		69		40-140	14		40
Phenanthrene	61		68		40-140	11		40
Anthracene	62		70		40-140	12		40
Pyrene	61		66		26-127	8		40
Benzo(a)anthracene	65		73		40-140	12		40
Chrysene	64		70		40-140	9		40
Benzo(b)fluoranthene	66		71		40-140	7		40
Benzo(a)pyrene	69		76		40-140	10		40
Indeno(1,2,3-cd)pyrene	77		81		40-140	5		40
Benzo(ghi)perylene	70		75		40-140	7		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	90		113		23-120
2-Fluorobiphenyl	59		70		15-120
4-Terphenyl-d14	60		65		41-149

METALS

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300961
Project Number: P044.001.002
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-01
Client ID: TG07-MW-05-230105
Sample Location: 3144 W PASSYUNK AVE.
Date Collected: 01/05/23 09:50
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	01/09/23 09:06	01/09/23 16:35	EPA 3005A	1,6020B	SV

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300961
Project Number: P044.001.002
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-02
Client ID: TG07-MW-04-230105
Sample Location: 3144 W PASSYUNK AVE.
Date Collected: 01/05/23 11:05
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	01/09/23 09:06	01/09/23 16:40	EPA 3005A	1,6020B	SV

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300961
Project Number: P044.001.002
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-03
Client ID: TG07-MW-01-230105
Sample Location: 3144 W PASSYUNK AVE.
Date Collected: 01/05/23 14:20
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	0.5930	J	ug/l	1.000	0.3430	1	01/09/23 09:06	01/09/23 16:45	EPA 3005A	1,6020B	SV

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300961
Project Number: P044.001.002
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-04
Client ID: TG07-MW-08-230105
Sample Location: 3144 W PASSYUNK AVE.
Date Collected: 01/05/23 15:05
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	01/09/23 09:06	01/09/23 17:10	EPA 3005A	1,6020B	SV

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300961
Project Number: P044.001.002
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-05
Client ID: TG04-MW-01-230106
Sample Location: 3144 W PASSYUNK AVE.
Date Collected: 01/06/23 10:30
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	01/09/23 09:06	01/09/23 17:15	EPA 3005A	1,6020B	SV

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2300961
Project Number: P044.001.002
Report Date: 03/01/23

SAMPLE RESULTS

Lab ID: L2300961-06
Client ID: S-219-230106
Sample Location: 3144 W PASSYUNK AVE.
Date Collected: 01/06/23 09:50
Date Received: 01/06/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	01/09/23 09:06	01/09/23 17:21	EPA 3005A	1,6020B	SV

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2300961
Report Date: 03/01/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01-06 Batch: WG1731110-1										
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	01/09/23 09:06	01/09/23 15:53	1,6020B	SV

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300961

Report Date: 03/01/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-06 Batch: WG1731110-2								
Lead, Dissolved	100		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300961
Report Date: 03/01/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1731110-3 QC Sample: L2300961-01 Client ID: TG07-MW-05-230105												
Lead, Dissolved	ND	530	539.3	102		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2300961

Report Date: 03/01/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1731110-4 QC Sample: L2300961-01 Client ID: TG07-MW-05-230105						
Lead, Dissolved	ND	ND	ug/l	NC		20

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300961
Report Date: 03/01/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2300961-01A	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-01B	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-01C	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-01D	Vial Na2S2O3 preserved	A	NA		4.3	Y	Absent		8011(14)
L2300961-01E	Vial Na2S2O3 preserved	A	NA		4.3	Y	Absent		8011(14)
L2300961-01F	Plastic 250ml HNO3 preserved	A	<2	<2	4.3	Y	Absent		PB-6020S-PPB(180)
L2300961-01G	Amber 250ml unpreserved	A	7	7	4.3	Y	Absent		PA-PAHSIM-LVI(7)
L2300961-01H	Amber 250ml unpreserved	A	7	7	4.3	Y	Absent		PA-PAHSIM-LVI(7)
L2300961-02A	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-02B	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-02C	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-02D	Vial Na2S2O3 preserved	A	NA		4.3	Y	Absent		8011(14)
L2300961-02E	Vial Na2S2O3 preserved	A	NA		4.3	Y	Absent		8011(14)
L2300961-02F	Plastic 250ml HNO3 preserved	A	<2	<2	4.3	Y	Absent		PB-6020S-PPB(180)
L2300961-02G	Amber 250ml unpreserved	A	7	7	4.3	Y	Absent		PA-PAHSIM-LVI(7)
L2300961-02H	Amber 250ml unpreserved	A	7	7	4.3	Y	Absent		PA-PAHSIM-LVI(7)
L2300961-03A	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-03B	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-03C	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-03D	Vial Na2S2O3 preserved	A	NA		4.3	Y	Absent		8011(14)
L2300961-03E	Vial Na2S2O3 preserved	A	NA		4.3	Y	Absent		8011(14)
L2300961-03F	Plastic 250ml HNO3 preserved	A	<2	<2	4.3	Y	Absent		PB-6020S-PPB(180)
L2300961-03G	Amber 250ml unpreserved	A	9	9	4.3	Y	Absent		PA-PAHSIM-LVI(7)

*Values in parentheses indicate holding time in days

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300961
Report Date: 03/01/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2300961-03H	Amber 250ml unpreserved	A	9	9	4.3	Y	Absent		PA-PAHSIM-LVI(7)
L2300961-04A	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-04B	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-04C	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-04D	Vial Na2S2O3 preserved	A	NA		4.3	Y	Absent		8011(14)
L2300961-04E	Vial Na2S2O3 preserved	A	NA		4.3	Y	Absent		8011(14)
L2300961-04F	Plastic 250ml HNO3 preserved	A	<2	<2	4.3	Y	Absent		PB-6020S-PPB(180)
L2300961-04G	Amber 250ml unpreserved	A	7	7	4.3	Y	Absent		PA-PAHSIM-LVI(7)
L2300961-04H	Amber 250ml unpreserved	A	7	7	4.3	Y	Absent		PA-PAHSIM-LVI(7)
L2300961-05A	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-05B	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-05C	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-05D	Vial Na2S2O3 preserved	A	NA		4.3	Y	Absent		8011(14)
L2300961-05E	Vial Na2S2O3 preserved	A	NA		4.3	Y	Absent		8011(14)
L2300961-05F	Plastic 250ml HNO3 preserved	A	<2	<2	4.3	Y	Absent		PB-6020S-PPB(180)
L2300961-05G	Amber 250ml unpreserved	A	7	7	4.3	Y	Absent		PA-PAHSIM-LVI(7)
L2300961-05H	Amber 250ml unpreserved	A	7	7	4.3	Y	Absent		PA-PAHSIM-LVI(7)
L2300961-06A	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-06B	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-06C	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-06D	Vial Na2S2O3 preserved	A	NA		4.3	Y	Absent		8011(14)
L2300961-06E	Vial Na2S2O3 preserved	A	NA		4.3	Y	Absent		8011(14)
L2300961-06F	Plastic 250ml HNO3 preserved	A	<2	<2	4.3	Y	Absent		PB-6020S-PPB(180)
L2300961-06G	Amber 250ml unpreserved	A	7	7	4.3	Y	Absent		PA-PAHSIM-LVI(7)
L2300961-06H	Amber 250ml unpreserved	A	7	7	4.3	Y	Absent		PA-PAHSIM-LVI(7)
L2300961-07A	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-07B	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2300961-07C	Vial Na2S2O3 preserved	A	NA		4.3	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2300961
Report Date: 03/01/23

Container Information

Container ID	*Container Type*	*Cooler*	*Initial pH*	*Final pH*	*Temp deg C*	*Pres*	*Seal*	*Frozen Date/Time*	*Analysis(*)*
L2300961-07D	Vial Na2S2O3 preserved	A	NA		4.3	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2300961
Project Number:	P044.001.002	**Report Date:**	03/01/23

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2300961
Project Number:	P044.001.002	**Report Date:**	03/01/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2300961
Project Number:	P044.001.002	**Report Date:**	03/01/23

Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2300961
Project Number:	P044.001.002	**Report Date:**	03/01/23

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 1/7/23

ALPHA Job #: L2309161

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Terraphase Engineering
Address: 100 Canal Pointe Blvd
Princeton NJ 08540 Suite 108
Phone: 215 297 3502
Fax:
Email: nick.scala@terraphase.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Former Philadelphia Refinery
Project Location: 3144 Passyunk Ave
Project #: P044.001.002
Project Manager: Nick Scala
ALPHA Quote #:

Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved)
Date Due: 48 hour TAT Time:

Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program	Criteria

Other Project Specific Requirements/Comments/Detection Limits:
EDD @ Terraphase.com
Equis EDD
* See attached sheet for Short List compounds.

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not needed (new)
☐ Lab to do (preserved)
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOC's - Short List 1-5	SVOC's - Short List 1-5	VOC's - Short List 1-6	SVOC's - Short List 1-6	Lead	Sample Specific Comments	TOTAL # BOTTLES
009161-01	TG07-MW-05-230105	1/5/23	0950	GW	KJO			X	X	X	48 hour Rush	8
02	TG07-MW-04-230105	1/5/23	1105	GW	KJO			X	X	X	48 hour Rush	8
03	TG07-MW-01-230105	1/5/23	1420	GW	NAK			X	X	X	48 hour Rush	8
04	TG07-MW-08-230105	1/5/23	1505	GW	KJO			X	X	X	48 hour Rush	8
05	TG04-MW-01-230106	1/6/23	1030	GW	KJO	X	X			X	48 hour Rush	8
06	S-219-230106	1/6/23	0950	GW	NAK	X	X			X	48 hour Rush	8
07	TB-230106-2	1/6/23	1120	TB	KJO	X		X			48 hour Rush	8

Container Type												
Preservative												

Relinquished By:	Date/Time	Received By:	Date/Time
	1/6/23/1455		1/6/23 14:55
	1/6/23 1800		1/6/23 1800
	1/6/23 2100		1-6-23 2100

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 14-OCT-07)

- **Short List 1**. *Leaded Gasoline, Aviation Gasoline and Jet Fuel*: benzene, toluene, ethyl benzene, xylenes (total), cumene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-dichloroethane, 1,2-dibromoethane, and lead.
- **Short List 2**. *Unleaded Gasoline*: benzene, toluene, ethyl benzene, xylenes (total), cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene.
- **Short List 3**. *Kerosene, Fuel Oil No. 1*: benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene.
- **Short List 4**. *Diesel Fuel and Fuel Oil No. 2*: benzene, toluene, ethyl benzene, cumene, methyl tert-butyl ether, naphthalene, 1,2,4-trimethyl benzene, and 1,3,5-trimethyl benzene.
- **Short List 5**. *Fuel Oil Nos. 4, 5, and 6, and Lubricating Oils and Fluids*: benzene, naphthalene, fluorene, anthracene, phenanthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, and benzo(g,h,i)perylene.
- **Short List 6**. *Waste Oil*: benzene, toluene, ethyl benzene, cumene, naphthalene (Method 8270), pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)pyrene, and lead.

Serial_No:03012314:15

ANALYTICAL REPORT

Lab Number:	L2307343
Client:	Terraphase Engineering Inc. 100 Canal Pointe Boulevard Suite 108 Princeton, NJ 08540
ATTN:	Nick Scala
Phone:	(609) 236-8171
Project Name:	FORMER PHILADELPHIA REFINERY
Project Number:	P044.001.002
Report Date:	02/17/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2307343
Report Date: 02/17/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2307343-01	TG07-MW-03-230208	WATER	3144 W. PASSYUNK AVE.	02/08/23 09:55	02/10/23
L2307343-02	TG07-MW-02-230208	WATER	3144 W. PASSYUNK AVE.	02/08/23 10:05	02/10/23
L2307343-03	TG07-MW-01-230208	WATER	3144 W. PASSYUNK AVE.	02/08/23 12:10	02/10/23
L2307343-04	TG07-MW-08-230208	WATER	3144 W. PASSYUNK AVE.	02/08/23 12:35	02/10/23
L2307343-05	TG07-MW-04-230208	WATER	3144 W. PASSYUNK AVE.	02/08/23 14:40	02/10/23
L2307343-06	TG04-MW-03-230209	WATER	3144 W. PASSYUNK AVE.	02/09/23 08:45	02/10/23
L2307343-07	TG07-MW-05-230209	WATER	3144 W. PASSYUNK AVE.	02/09/23 10:10	02/10/23
L2307343-08	TG07-MW-05-230209D	WATER	3144 W. PASSYUNK AVE.	02/09/23 10:10	02/10/23
L2307343-09	S-219-230209	WATER	3144 W. PASSYUNK AVE.	02/09/23 12:00	02/10/23
L2307343-10	TG04-MW-01-230209	WATER	3144 W. PASSYUNK AVE.	02/09/23 13:30	02/10/23
L2307343-11	TG04-MW-01-230209D	WATER	3144 W. PASSYUNK AVE.	02/09/23 13:30	02/10/23
L2307343-12	FB-230209-1	WATER	3144 W. PASSYUNK AVE.	02/09/23 14:06	02/10/23
L2307343-13	TB-230209-1	WATER	3144 W. PASSYUNK AVE.	02/09/23 14:06	02/10/23
L2307343-14	FB-230209-2	WATER	3144 W. PASSYUNK AVE.	02/09/23 14:15	02/10/23
L2307343-15	TB-230209-2	WATER	3144 W. PASSYUNK AVE.	02/09/23 14:15	02/10/23

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2307343
Project Number:	P044.001.002	**Report Date:**	02/17/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2307343
Project Number:	P044.001.002	**Report Date:**	02/17/23

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2307343-12 and -14: The Field Blank has results for toluene, ethylbenzene, p/m-Xylene, and o-Xylene present above the reporting limit. The samples were re-analyzed and confirmed the original results. The results of the original analyses are reported.

Microextractables

The WG1744376-2 LCS recovery for 1,2-dibromoethane (130%), associated with L2307343-01 through -15, is outside Alpha's acceptance criteria, but within the acceptance criteria specified in the method.
The WG1744376-3/-4 MS/MSD recoveries for 1,2-dibromoethane (132%/132%), performed on L2307343-06, are outside Alpha's acceptance criteria, but within the acceptance criteria specified in the method.

Semivolatile Organics by SIM

L2307343-14: The Field Blank has a result for Naphthalene present above the reporting limit; however, re-extraction achieved similar results. Only the results of the original analysis are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Caitlin Walukevich

Title: Technical Director/Representative Date: 02/17/23

ORGANICS

VOLATILES

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-01
Client ID: TG07-MW-03-230208
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/08/23 09:55
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 02/14/23 16:38
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 02/14/23 14:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-01
Client ID: TG07-MW-03-230208
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/08/23 09:55
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 02/13/23 11:11
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	0.23	J	ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	0.89		ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	0.23	J	ug/l	0.50	0.17	1
p/m-Xylene	1.0		ug/l	1.0	0.33	1
o-Xylene	0.55	J	ug/l	1.0	0.39	1
Xylenes, Total	1.6	J	ug/l	1.0	0.33	1
Isopropylbenzene	2.4		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	2.8		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	100		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-02
Client ID: TG07-MW-02-230208
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/08/23 10:05
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 02/14/23 16:46
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 02/14/23 14:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-02
Client ID: TG07-MW-02-230208
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/08/23 10:05
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 02/13/23 11:38
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	0.35	J	ug/l	1.0	0.17	1
Benzene	19		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	3.7		ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	0.65		ug/l	0.50	0.17	1
p/m-Xylene	2.3		ug/l	1.0	0.33	1
o-Xylene	1.1		ug/l	1.0	0.39	1
Xylenes, Total	3.4		ug/l	1.0	0.33	1
Isopropylbenzene	30		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	0.30	J	ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	1.0	J	ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	96		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-03
Client ID: TG07-MW-01-230208
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/08/23 12:10
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 02/14/23 16:54
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 02/14/23 14:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2307343

Project Number: P044.001.002 **Report Date:** 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-03
Client ID: TG07-MW-01-230208
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/08/23 12:10
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 02/13/23 12:04
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	0.31	J	ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	100		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-04
Client ID: TG07-MW-08-230208
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/08/23 12:35
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 02/14/23 17:03
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 02/14/23 14:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2307343

Project Number: P044.001.002 **Report Date:** 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-04 D
Client ID: TG07-MW-08-230208
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/08/23 12:35
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 02/13/23 13:23
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	40	6.6	40
Benzene	ND		ug/l	20	6.4	40
1,2-Dichloroethane	ND		ug/l	20	5.3	40
Toluene	ND		ug/l	30	8.1	40
1,2-Dibromoethane	ND		ug/l	80	7.7	40
Ethylbenzene	ND		ug/l	20	6.7	40
p/m-Xylene	ND		ug/l	40	13.	40
o-Xylene	ND		ug/l	40	16.	40
Xylenes, Total	ND		ug/l	40	13.	40
Isopropylbenzene	4600		ug/l	20	7.5	40
1,3,5-Trimethylbenzene	ND		ug/l	100	8.7	40
1,2,4-Trimethylbenzene	ND		ug/l	100	7.6	40

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	102		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-05
Client ID: TG07-MW-04-230208
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/08/23 14:40
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 02/14/23 17:11
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 02/14/23 14:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2307343

Project Number: P044.001.002 **Report Date:** 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-05 D
Client ID: TG07-MW-04-230208
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/08/23 14:40
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 02/13/23 13:49
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	4.0	0.66	4
Benzene	64		ug/l	2.0	0.64	4
1,2-Dichloroethane	ND		ug/l	2.0	0.53	4
Toluene	4.6		ug/l	3.0	0.81	4
1,2-Dibromoethane	ND		ug/l	8.0	0.77	4
Ethylbenzene	2.7		ug/l	2.0	0.67	4
p/m-Xylene	4.1		ug/l	4.0	1.3	4
o-Xylene	1.6	J	ug/l	4.0	1.6	4
Xylenes, Total	5.7	J	ug/l	4.0	1.3	4
Isopropylbenzene	360		ug/l	2.0	0.75	4
1,3,5-Trimethylbenzene	ND		ug/l	10	0.87	4
1,2,4-Trimethylbenzene	ND		ug/l	10	0.76	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	90		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-06
Client ID: TG04-MW-03-230209
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 08:45
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 02/14/23 17:19
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 02/14/23 14:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2307343

Project Number: P044.001.002 **Report Date:** 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-06
Client ID: TG04-MW-03-230209
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 08:45
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 02/13/23 12:30
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	0.34	J	ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	100		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-07
Client ID: TG07-MW-05-230209
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 10:10
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 02/14/23 17:28
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 02/14/23 14:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2307343

Project Number: P044.001.002 **Report Date:** 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-07 D
Client ID: TG07-MW-05-230209
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 10:10
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 02/13/23 14:14
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	200	33.	200
Benzene	17000		ug/l	100	32.	200
1,2-Dichloroethane	ND		ug/l	100	26.	200
Toluene	350		ug/l	150	41.	200
1,2-Dibromoethane	ND		ug/l	400	39.	200
Ethylbenzene	ND		ug/l	100	33.	200
p/m-Xylene	ND		ug/l	200	66.	200
o-Xylene	ND		ug/l	200	78.	200
Xylenes, Total	ND		ug/l	200	66.	200
Isopropylbenzene	8400		ug/l	100	37.	200
1,3,5-Trimethylbenzene	ND		ug/l	500	43.	200
1,2,4-Trimethylbenzene	ND		ug/l	500	38.	200

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	96		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-08
Client ID: TG07-MW-05-230209D
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 10:10
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 02/14/23 17:36
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 02/14/23 14:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2307343

Project Number: P044.001.002 **Report Date:** 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-08 D
Client ID: TG07-MW-05-230209D
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 10:10
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 02/13/23 14:41
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	200	33.	200
Benzene	17000		ug/l	100	32.	200
1,2-Dichloroethane	130		ug/l	100	26.	200
Toluene	340		ug/l	150	41.	200
1,2-Dibromoethane	ND		ug/l	400	39.	200
Ethylbenzene	ND		ug/l	100	33.	200
p/m-Xylene	ND		ug/l	200	66.	200
o-Xylene	ND		ug/l	200	78.	200
Xylenes, Total	ND		ug/l	200	66.	200
Isopropylbenzene	8400		ug/l	100	37.	200
1,3,5-Trimethylbenzene	ND		ug/l	500	43.	200
1,2,4-Trimethylbenzene	ND		ug/l	500	38.	200

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	96		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-09
Client ID: S-219-230209
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 12:00
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 02/14/23 17:44
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 02/14/23 14:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-09
Client ID: S-219-230209
Sample Location: 3144 W. PASSYUNK AVE.
Date Collected: 02/09/23 12:00
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 02/13/23 12:56
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	0.34	J	ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	102		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-10
Client ID: TG04-MW-01-230209
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 13:30
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 02/14/23 17:52
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 02/14/23 14:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2307343

Project Number: P044.001.002 **Report Date:** 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-10 D
Client ID: TG04-MW-01-230209
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 13:30
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 02/13/23 15:07
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	5.0	0.83	5
Benzene	530		ug/l	2.5	0.80	5
1,2-Dichloroethane	ND		ug/l	2.5	0.66	5
Toluene	10		ug/l	3.8	1.0	5
1,2-Dibromoethane	ND		ug/l	10	0.96	5
Ethylbenzene	96		ug/l	2.5	0.84	5
p/m-Xylene	180		ug/l	5.0	1.7	5
o-Xylene	16		ug/l	5.0	2.0	5
Xylenes, Total	200		ug/l	5.0	1.7	5
Isopropylbenzene	64		ug/l	2.5	0.94	5
1,3,5-Trimethylbenzene	12		ug/l	12	1.1	5
1,2,4-Trimethylbenzene	47		ug/l	12	0.96	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	95		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-11
Client ID: TG04-MW-01-230209D
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 13:30
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 02/14/23 18:01
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 02/14/23 14:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2307343

Project Number: P044.001.002 **Report Date:** 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-11 D
Client ID: TG04-MW-01-230209D
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 13:30
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 02/13/23 15:33
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	5.0	0.83	5
Benzene	510		ug/l	2.5	0.80	5
1,2-Dichloroethane	ND		ug/l	2.5	0.66	5
Toluene	9.6		ug/l	3.8	1.0	5
1,2-Dibromoethane	ND		ug/l	10	0.96	5
Ethylbenzene	89		ug/l	2.5	0.84	5
p/m-Xylene	170		ug/l	5.0	1.7	5
o-Xylene	16		ug/l	5.0	2.0	5
Xylenes, Total	190		ug/l	5.0	1.7	5
Isopropylbenzene	58		ug/l	2.5	0.94	5
1,3,5-Trimethylbenzene	11	J	ug/l	12	1.1	5
1,2,4-Trimethylbenzene	45		ug/l	12	0.96	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	94		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-12
Client ID: FB-230209-1
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 14:06
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 02/14/23 18:09
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 02/14/23 14:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2307343

Project Number: P044.001.002 **Report Date:** 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-12
Client ID: FB-230209-1
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 14:06
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 02/13/23 09:27
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	1.4		ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	0.77		ug/l	0.50	0.17	1
p/m-Xylene	2.8		ug/l	1.0	0.33	1
o-Xylene	1.6		ug/l	1.0	0.39	1
Xylenes, Total	4.4		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	103		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-13
Client ID: TB-230209-1
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 14:06
Date Received: 02/10/23
Field Prep: None

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 02/14/23 18:17
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 02/14/23 14:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2307343

Project Number: P044.001.002 **Report Date:** 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-13
Client ID: TB-230209-1
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 14:06
Date Received: 02/10/23
Field Prep: None

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 02/13/23 09:54
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	102		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-14
Client ID: FB-230209-2
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 14:15
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 02/14/23 18:26
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 02/14/23 14:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-14
Client ID: FB-230209-2
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 14:15
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 02/13/23 10:20
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	1.7		ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	0.91		ug/l	0.50	0.17	1
p/m-Xylene	3.0		ug/l	1.0	0.33	1
o-Xylene	1.7		ug/l	1.0	0.39	1
Xylenes, Total	4.7		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	101		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-15
Client ID: TB-230209-2
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 14:15
Date Received: 02/10/23
Field Prep: None

Sample Depth:
Matrix: Water
Analytical Method: 1,8011
Analytical Date: 02/14/23 18:34
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 02/14/23 14:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	0.005	1	A

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-15
Client ID: TB-230209-2
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 14:15
Date Received: 02/10/23
Field Prep: None

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 02/13/23 10:46
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
Toluene	ND		ug/l	0.75	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	102		70-130

Project Name: FORMER PHILADELPHIA REFINERY **Lab Number:** L2307343

Project Number: P044.001.002 **Report Date:** 02/17/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 02/13/23 09:01
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-15 Batch: WG1744149-5					
Methyl tert butyl ether	ND		ug/l	1.0	0.17
Benzene	ND		ug/l	0.50	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
Toluene	ND		ug/l	0.75	0.20
1,2-Dibromoethane	ND		ug/l	2.0	0.19
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Isopropylbenzene	ND		ug/l	0.50	0.19
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	100		70-130

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8011
Analytical Date: 02/14/23 15:48
Analyst: AMM

Extraction Method: EPA 8011
Extraction Date: 02/14/23 14:40

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01-15 Batch: WG1744376-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2307343

Report Date: 02/17/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-15 Batch: WG1744149-3 WG1744149-4								
Methyl tert butyl ether	74		91		63-130	**21**	Q	20
Benzene	90		97		70-130	7		20
1,2-Dichloroethane	92		100		70-130	8		20
Toluene	95		100		70-130	5		20
1,2-Dibromoethane	87		100		70-130	14		20
Ethylbenzene	96		100		70-130	4		20
p/m-Xylene	95		105		70-130	10		20
o-Xylene	95		105		70-130	10		20
Isopropylbenzene	99		110		70-130	11		20
1,3,5-Trimethylbenzene	98		110		64-130	12		20
1,2,4-Trimethylbenzene	97		100		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	105		107		70-130
Toluene-d8	101		100		70-130
4-Bromofluorobenzene	101		100		70-130
Dibromofluoromethane	97		97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2307343

Report Date: 02/17/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 01-15 Batch: WG1744376-2								
1,2-Dibromoethane	**130**	Q	-		80-120	-		20	A

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-15 QC Batch ID: WG1744149-6 WG1744149-7 QC Sample: L2307343-06 Client ID: TG04-MW-03-230209												
Methyl tert butyl ether	ND	10	11	110		11	110		63-130	0		20
Benzene	ND	10	12	120		12	120		70-130	0		20
1,2-Dichloroethane	ND	10	12	120		12	120		70-130	0		20
Toluene	0.34J	10	12	120		12	120		70-130	0		20
1,2-Dibromoethane	ND	10	10	100		11	110		70-130	10		20
Ethylbenzene	ND	10	12	120		11	110		70-130	9		20
p/m-Xylene	ND	20	23	115		22	110		70-130	4		20
o-Xylene	ND	20	23	115		23	115		70-130	0		20
Isopropylbenzene	ND	10	12	120		11	110		70-130	9		20
1,3,5-Trimethylbenzene	ND	10	11	110		11	110		64-130	0		20
1,2,4-Trimethylbenzene	ND	10	11	110		11	110		70-130	0		20

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		106		70-130
4-Bromofluorobenzene	99		98		70-130
Dibromofluoromethane	100		98		70-130
Toluene-d8	98		98		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-15 QC Batch ID: WG1744149-8 WG1744149-9 QC Sample: L2307343-07 Client ID: TG07-MW-05-230209												
Methyl tert butyl ether	ND	2000	1900	95		2200	110		63-130	15		20
Benzene	17000	2000	19000	100		20000	**150**	Q	70-130	5		20
1,2-Dichloroethane	ND	2000	2000	100		2400	120		70-130	18		20
Toluene	350	2000	2300	98		2600	113		70-130	12		20
1,2-Dibromoethane	ND	2000	1800	90		2200	110		70-130	20		20
Ethylbenzene	ND	2000	2000	100		2200	110		70-130	10		20
p/m-Xylene	ND	4000	3900	98		4300	108		70-130	10		20
o-Xylene	ND	4000	3900	98		4500	113		70-130	14		20
Isopropylbenzene	8400	2000	10000	80		10000	80		70-130	0		20
1,3,5-Trimethylbenzene	ND	2000	1900	95		2100	105		64-130	10		20
1,2,4-Trimethylbenzene	ND	2000	1900	95		2100	105		70-130	10		20

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		105		70-130
4-Bromofluorobenzene	99		99		70-130
Dibromofluoromethane	97		97		70-130
Toluene-d8	98		97		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2307343

Report Date: 02/17/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 01-15 QC Batch ID: WG1744376-3 WG1744376-4 QC Sample: L2307343-06 Client ID: TG04-MW-03-230209													
1,2-Dibromoethane	ND	0.248	0.327	**132**	Q	0.330	**132**	Q	80-120	1		20	A

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 01-15 QC Batch ID: WG1744376-5 WG1744376-6 QC Sample: L2307343-07 Client ID: TG07-MW-05-230209													
1,2-Dibromoethane	ND	0.25	0.281	112		0.287	115		80-120	2		20	A

SEMIVOLATILES

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-01
Client ID: TG07-MW-03-230208
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/08/23 09:55
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 02/12/23 14:09
Analyst: WR

Extraction Method: EPA 3510C
Extraction Date: 02/11/23 16:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.13		ug/l	0.10	0.05	1
Fluorene	0.41		ug/l	0.10	0.01	1
Phenanthrene	0.43		ug/l	0.05	0.02	1
Anthracene	0.09	J	ug/l	0.10	0.01	1
Pyrene	0.11		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.03	J	ug/l	0.05	0.02	1
Chrysene	0.02	J	ug/l	0.10	0.01	1
Benzo(b)fluoranthene	0.01	J	ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	23		23-120
2-Fluorobiphenyl	68		15-120
4-Terphenyl-d14	71		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-02
Client ID: TG07-MW-02-230208
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/08/23 10:05
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 02/12/23 14:26
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 02/11/23 16:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.33		ug/l	0.10	0.05	1
Fluorene	0.83		ug/l	0.10	0.01	1
Phenanthrene	0.83		ug/l	0.05	0.02	1
Anthracene	0.13		ug/l	0.10	0.01	1
Pyrene	0.26		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.09		ug/l	0.05	0.02	1
Chrysene	0.09	J	ug/l	0.10	0.01	1
Benzo(b)fluoranthene	0.08		ug/l	0.05	0.01	1
Benzo(a)pyrene	0.09	J	ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	0.06	J	ug/l	0.10	0.01	1
Benzo(ghi)perylene	0.06	J	ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	73		15-120
4-Terphenyl-d14	63		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-03
Client ID: TG07-MW-01-230208
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/08/23 12:10
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 02/12/23 14:42
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 02/11/23 16:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	0.02	J	ug/l	0.10	0.01	1
Phenanthrene	0.03	J	ug/l	0.05	0.02	1
Anthracene	0.02	J	ug/l	0.10	0.01	1
Pyrene	0.07	J	ug/l	0.10	0.02	1
Benzo(a)anthracene	0.05	J	ug/l	0.05	0.02	1
Chrysene	0.02	J	ug/l	0.10	0.01	1
Benzo(b)fluoranthene	0.02	J	ug/l	0.05	0.01	1
Benzo(a)pyrene	0.02	J	ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	75		15-120
4-Terphenyl-d14	76		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-04
Client ID: TG07-MW-08-230208
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/08/23 12:35
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 02/12/23 14:58
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 02/11/23 16:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	1.6		ug/l	0.10	0.05	1
Fluorene	1.9		ug/l	0.10	0.01	1
Phenanthrene	1.2		ug/l	0.05	0.02	1
Anthracene	0.18		ug/l	0.10	0.01	1
Pyrene	0.69		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.12		ug/l	0.05	0.02	1
Chrysene	0.10		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	0.06		ug/l	0.05	0.01	1
Benzo(a)pyrene	0.06	J	ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	0.03	J	ug/l	0.10	0.01	1
Benzo(ghi)perylene	0.03	J	ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	72		15-120
4-Terphenyl-d14	72		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-05
Client ID: TG07-MW-04-230208
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/08/23 14:40
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 02/12/23 15:14
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 02/11/23 16:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	1.1		ug/l	0.10	0.05	1
Fluorene	5.6		ug/l	0.10	0.01	1
Phenanthrene	4.4		ug/l	0.05	0.02	1
Anthracene	0.33		ug/l	0.10	0.01	1
Pyrene	0.31		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.10		ug/l	0.05	0.02	1
Chrysene	0.09	J	ug/l	0.10	0.01	1
Benzo(b)fluoranthene	0.05	J	ug/l	0.05	0.01	1
Benzo(a)pyrene	0.06	J	ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	0.02	J	ug/l	0.10	0.01	1
Benzo(ghi)perylene	0.02	J	ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	111		23-120
2-Fluorobiphenyl	88		15-120
4-Terphenyl-d14	69		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-06
Client ID: TG04-MW-03-230209
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 08:45
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 02/12/23 15:31
Analyst: WR

Extraction Method: EPA 3510C
Extraction Date: 02/11/23 23:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	75		15-120
4-Terphenyl-d14	79		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-07
Client ID: TG07-MW-05-230209
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 10:10
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 02/12/23 16:19
Analyst: WR

Extraction Method: EPA 3510C
Extraction Date: 02/11/23 23:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	19		ug/l	0.10	0.05	1
Fluorene	2.7		ug/l	0.10	0.01	1
Phenanthrene	2.0		ug/l	0.05	0.02	1
Anthracene	0.22		ug/l	0.10	0.01	1
Pyrene	0.15		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.05	J	ug/l	0.05	0.02	1
Chrysene	0.03	J	ug/l	0.10	0.01	1
Benzo(b)fluoranthene	0.03	J	ug/l	0.05	0.01	1
Benzo(a)pyrene	0.03	J	ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	0.01	J	ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	74		15-120
4-Terphenyl-d14	68		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-08
Client ID: TG07-MW-05-230209D
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 10:10
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 02/12/23 17:08
Analyst: WR

Extraction Method: EPA 3510C
Extraction Date: 02/11/23 23:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	21		ug/l	0.10	0.05	1
Fluorene	3.1		ug/l	0.10	0.01	1
Phenanthrene	2.3		ug/l	0.05	0.02	1
Anthracene	0.26		ug/l	0.10	0.01	1
Pyrene	0.16		ug/l	0.10	0.02	1
Benzo(a)anthracene	0.05	J	ug/l	0.05	0.02	1
Chrysene	0.03	J	ug/l	0.10	0.01	1
Benzo(b)fluoranthene	0.03	J	ug/l	0.05	0.01	1
Benzo(a)pyrene	0.03	J	ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	0.02	J	ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	112		23-120
2-Fluorobiphenyl	89		15-120
4-Terphenyl-d14	83		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-09
Client ID: S-219-230209
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 12:00
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 02/12/23 17:25
Analyst: WR

Extraction Method: EPA 3510C
Extraction Date: 02/11/23 23:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	ND		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	91		23-120
2-Fluorobiphenyl	77		15-120
4-Terphenyl-d14	73		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-10
Client ID: TG04-MW-01-230209
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 13:30
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 02/12/23 17:41
Analyst: WR

Extraction Method: EPA 3510C
Extraction Date: 02/11/23 23:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.19		ug/l	0.10	0.05	1
Fluorene	0.50		ug/l	0.10	0.01	1
Phenanthrene	0.04	J	ug/l	0.05	0.02	1
Anthracene	0.23		ug/l	0.10	0.01	1
Pyrene	0.02	J	ug/l	0.10	0.02	1
Benzo(a)anthracene	0.02	J	ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	97		23-120
2-Fluorobiphenyl	74		15-120
4-Terphenyl-d14	62		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-11
Client ID: TG04-MW-01-230209D
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 13:30
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 02/12/23 17:57
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 02/11/23 23:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	1.5		ug/l	0.10	0.05	1
Fluorene	0.55		ug/l	0.10	0.01	1
Phenanthrene	0.04	J	ug/l	0.05	0.02	1
Anthracene	0.32		ug/l	0.10	0.01	1
Pyrene	0.03	J	ug/l	0.10	0.02	1
Benzo(a)anthracene	0.02	J	ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	26		23-120
2-Fluorobiphenyl	90		15-120
4-Terphenyl-d14	74		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-12
Client ID: FB-230209-1
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 14:06
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 02/12/23 18:14
Analyst: WR

Extraction Method: EPA 3510C
Extraction Date: 02/11/23 23:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.07	J	ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	92		23-120
2-Fluorobiphenyl	78		15-120
4-Terphenyl-d14	85		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-14
Client ID: FB-230209-2
Sample Location: 3144 W. PASSYUNK AVE.

Date Collected: 02/09/23 14:15
Date Received: 02/10/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 02/12/23 18:30
Analyst: WR

Extraction Method: EPA 3510C
Extraction Date: 02/11/23 23:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	0.11		ug/l	0.10	0.05	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.05	0.02	1
Anthracene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
Benzo(a)anthracene	ND		ug/l	0.05	0.02	1
Chrysene	ND		ug/l	0.10	0.01	1
Benzo(b)fluoranthene	ND		ug/l	0.05	0.01	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	69		15-120
4-Terphenyl-d14	75		41-149

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270E-SIM
Analytical Date: 02/12/23 13:53
Analyst: WR

Extraction Method: EPA 3510C
Extraction Date: 02/11/23 16:33

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-12,14 Batch: WG1743500-1					
Naphthalene	ND		ug/l	0.10	0.05
Fluorene	0.03	J	ug/l	0.10	0.01
Phenanthrene	0.03	J	ug/l	0.05	0.02
Anthracene	0.02	J	ug/l	0.10	0.01
Pyrene	0.03	J	ug/l	0.10	0.02
Benzo(a)anthracene	0.04	J	ug/l	0.05	0.02
Chrysene	0.02	J	ug/l	0.10	0.01
Benzo(b)fluoranthene	0.02	J	ug/l	0.05	0.01
Benzo(a)pyrene	0.02	J	ug/l	0.10	0.02
Indeno(1,2,3-cd)pyrene	0.03	J	ug/l	0.10	0.01
Benzo(ghi)perylene	0.03	J	ug/l	0.10	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	66		15-120
4-Terphenyl-d14	74		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2307343

Report Date: 02/17/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-12,14 Batch: WG1743500-2 WG1743500-3								
Naphthalene	57		59		40-140	3		40
Fluorene	62		67		40-140	8		40
Phenanthrene	58		63		40-140	8		40
Anthracene	65		70		40-140	7		40
Pyrene	66		71		26-127	7		40
Benzo(a)anthracene	67		73		40-140	9		40
Chrysene	62		65		40-140	5		40
Benzo(b)fluoranthene	64		73		40-140	13		40
Benzo(a)pyrene	70		75		40-140	7		40
Indeno(1,2,3-cd)pyrene	75		85		40-140	13		40
Benzo(ghi)perylene	65		72		40-140	10		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	78		81		23-120
2-Fluorobiphenyl	65		68		15-120
4-Terphenyl-d14	73		76		41-149

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-12,14 QC Batch ID: WG1743500-4 WG1743500-5 QC Sample: L2307343-07 Client ID: TG07-MW-05-230209												
Naphthalene	19	3.64	23	110		24	140		40-140	4		40
Fluorene	2.7	3.64	5.5	77		5.8	85		40-140	5		40
Phenanthrene	2.0	3.64	4.8	77		5.1	85		40-140	6		40
Anthracene	0.22	3.64	3.1	79		3.4	87		40-140	9		40
Pyrene	0.15	3.64	3.1	81		3.3	87		26-127	6		40
Benzo(a)anthracene	0.05J	3.64	2.5	69		2.7	74		40-140	8		40
Chrysene	0.03J	3.64	2.3	63		2.5	69		40-140	8		40
Benzo(b)fluoranthene	0.03J	3.64	2.0	55		2.2	61		40-140	10		40
Benzo(a)pyrene	0.03J	3.64	2.0	55		2.2	61		40-140	10		40
Indeno(1,2,3-cd)pyrene	0.01J	3.64	1.8	50		2.0	55		40-140	11		40
Benzo(ghi)perylene	ND	3.64	1.7	47		1.8	50		40-140	6		40

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2-Fluorobiphenyl	77		82		15-120
4-Terphenyl-d14	68		74		41-149
Nitrobenzene-d5	103		108		23-120

Matrix Spike Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-12,14 QC Batch ID: WG1743500-6 WG1743500-7 QC Sample: L2307343-06 Client ID: TG04-MW-03-230209												
Naphthalene	ND	3.64	2.5	69		2.4	66		40-140	4		40
Fluorene	ND	3.64	2.7	74		2.6	72		40-140	4		40
Phenanthrene	ND	3.64	2.5	69		2.4	66		40-140	4		40
Anthracene	ND	3.64	2.8	77		2.7	74		40-140	4		40
Pyrene	ND	3.64	2.8	77		2.8	77		26-127	0		40
Benzo(a)anthracene	ND	3.64	2.8	77		2.7	74		40-140	4		40
Chrysene	ND	3.64	2.5	69		2.5	69		40-140	0		40
Benzo(b)fluoranthene	ND	3.64	2.5	69		2.5	69		40-140	0		40
Benzo(a)pyrene	ND	3.64	2.6	72		2.6	72		40-140	0		40
Indeno(1,2,3-cd)pyrene	ND	3.64	1.3	**36**	Q	1.5	41		40-140	14		40
Benzo(ghi)perylene	ND	3.64	1.1	**30**	Q	1.2	**33**	Q	40-140	9		40

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2-Fluorobiphenyl	74		72		15-120
4-Terphenyl-d14	78		76		41-149
Nitrobenzene-d5	89		86		23-120

METALS

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-01
Client ID: TG07-MW-03-230208
Sample Location: 3144 W. PASSYUNK AVE.
Sample Depth:
Matrix: Water

Date Collected: 02/08/23 09:55
Date Received: 02/10/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	02/13/23 10:40	02/13/23 18:09	EPA 3005A	1,6020B	NTB

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-02
Client ID: TG07-MW-02-230208
Sample Location: 3144 W. PASSYUNK AVE.
Sample Depth:
Matrix: Water

Date Collected: 02/08/23 10:05
Date Received: 02/10/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	02/13/23 10:40	02/13/23 18:15	EPA 3005A	1,6020B	NTB

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-03
Client ID: TG07-MW-01-230208
Sample Location: 3144 W. PASSYUNK AVE.
Sample Depth:
Matrix: Water

Date Collected: 02/08/23 12:10
Date Received: 02/10/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	0.6628	J	ug/l	1.000	0.3430	1	02/13/23 10:40	02/13/23 18:20	EPA 3005A	1,6020B	NTB

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-04
Client ID: TG07-MW-08-230208
Sample Location: 3144 W. PASSYUNK AVE.
Sample Depth:
Matrix: Water

Date Collected: 02/08/23 12:35
Date Received: 02/10/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	02/13/23 10:40	02/13/23 18:25	EPA 3005A	1,6020B	NTB

Project Name: FORMER PHILADELPHIA REFINERY
Lab Number: L2307343
Project Number: P044.001.002
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-05
Client ID: TG07-MW-04-230208
Sample Location: 3144 W. PASSYUNK AVE.
Sample Depth:
Matrix: Water

Date Collected: 02/08/23 14:40
Date Received: 02/10/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	02/13/23 10:40	02/13/23 18:31	EPA 3005A	1,6020B	NTB

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-06
Client ID: TG04-MW-03-230209
Sample Location: 3144 W. PASSYUNK AVE.
Sample Depth:
Matrix: Water

Date Collected: 02/09/23 08:45
Date Received: 02/10/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	02/13/23 10:40	02/13/23 17:07	EPA 3005A	1,6020B	NTB

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-07
Client ID: TG07-MW-05-230209
Sample Location: 3144 W. PASSYUNK AVE.
Sample Depth:
Matrix: Water

Date Collected: 02/09/23 10:10
Date Received: 02/10/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	0.7672	J	ug/l	1.000	0.3430	1	02/13/23 10:40	02/13/23 17:13	EPA 3005A	1,6020B	NTB

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-08
Client ID: TG07-MW-05-230209D
Sample Location: 3144 W. PASSYUNK AVE.
Sample Depth:
Matrix: Water

Date Collected: 02/09/23 10:10
Date Received: 02/10/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	0.6277	J	ug/l	1.000	0.3430	1	02/13/23 10:40	02/13/23 18:36	EPA 3005A	1,6020B	NTB

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-09
Client ID: S-219-230209
Sample Location: 3144 W. PASSYUNK AVE.
Sample Depth:
Matrix: Water

Date Collected: 02/09/23 12:00
Date Received: 02/10/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	02/13/23 10:40	02/13/23 18:42	EPA 3005A	1,6020B	NTB

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-10
Client ID: TG04-MW-01-230209
Sample Location: 3144 W. PASSYUNK AVE.
Sample Depth:
Matrix: Water

Date Collected: 02/09/23 13:30
Date Received: 02/10/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	02/13/23 10:40	02/13/23 18:47	EPA 3005A	1,6020B	NTB

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-11
Client ID: TG04-MW-01-230209D
Sample Location: 3144 W. PASSYUNK AVE.
Sample Depth:
Matrix: Water

Date Collected: 02/09/23 13:30
Date Received: 02/10/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	02/13/23 10:40	02/13/23 18:52	EPA 3005A	1,6020B	NTB

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-12
Client ID: FB-230209-1
Sample Location: 3144 W. PASSYUNK AVE.
Sample Depth:
Matrix: Water

Date Collected: 02/09/23 14:06
Date Received: 02/10/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	02/13/23 10:40	02/13/23 19:17	EPA 3005A	1,6020B	NTB

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

SAMPLE RESULTS

Lab ID: L2307343-14
Client ID: FB-230209-2
Sample Location: 3144 W. PASSYUNK AVE.
Sample Depth:
Matrix: Water

Date Collected: 02/09/23 14:15
Date Received: 02/10/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	02/13/23 10:40	02/13/23 19:23	EPA 3005A	1,6020B	NTB

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002
Lab Number: L2307343
Report Date: 02/17/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01-12,14 Batch: WG1743590-1										
Lead, Dissolved	ND		ug/l	1.000	0.3430	1	02/13/23 10:40	02/13/23 16:30	1,6020B	NTB

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY

Project Number: P044.001.002

Lab Number: L2307343

Report Date: 02/17/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-12,14 Batch: WG1743590-2								
Lead, Dissolved	97		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2307343
Report Date: 02/17/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-12,14 QC Batch ID: WG1743590-3 WG1743590-4 QC Sample: L2307343-06 Client ID: TG04-MW-03-230209												
Lead, Dissolved	ND	530	508.6	96		523.9	99		75-125	3		20
Dissolved Metals - Mansfield Lab Associated sample(s): 01-12,14 QC Batch ID: WG1743590-7 WG1743590-8 QC Sample: L2307343-07 Client ID: TG07-MW-05-230209												
Lead, Dissolved	0.7672J	530	510.8	96		508.3	96		75-125	0		20

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2307343
Report Date: 02/17/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2307343-01A	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-01B	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-01C	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-01D	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-01E	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-01F	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-01G	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-01H	Plastic 250ml HNO3 preserved	A	<2	<2	2.1	Y	Absent		PB-6020S-PPB(180)
L2307343-02A	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-02B	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-02C	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-02D	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-02E	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-02F	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-02G	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-02H	Plastic 250ml HNO3 preserved	A	<2	<2	2.1	Y	Absent		PB-6020S-PPB(180)
L2307343-03A	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-03B	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-03C	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-03D	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-03E	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-03F	Amber 250ml unpreserved	A	9	9	2.1	Y	Absent		PA-PAHSIM-LVI(7)

*Values in parentheses indicate holding time in days

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2307343
Report Date: 02/17/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2307343-03G	Amber 250ml unpreserved	A	9	9	2.1	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-03H	Plastic 250ml HNO3 preserved	A	<2	<2	2.1	Y	Absent		PB-6020S-PPB(180)
L2307343-04A	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-04B	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-04C	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-04D	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-04E	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-04F	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-04G	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-04H	Plastic 250ml HNO3 preserved	A	<2	<2	2.1	Y	Absent		PB-6020S-PPB(180)
L2307343-05A	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-05B	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-05C	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-05D	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-05E	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-05F	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-05G	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-05H	Plastic 250ml HNO3 preserved	A	<2	<2	2.1	Y	Absent		PB-6020S-PPB(180)
L2307343-06A	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-06A1	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-06A2	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-06B	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-06B1	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-06B2	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-06C	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-06C1	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-06C2	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-06D	Vial Na2S2O3 preserved	B	NA		2.2	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2307343
Report Date: 02/17/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2307343-06D1	Vial Na2S2O3 preserved	B	NA		2.2	Y	Absent		8011(14)
L2307343-06D2	Vial Na2S2O3 preserved	B	NA		2.2	Y	Absent		8011(14)
L2307343-06E	Vial Na2S2O3 preserved	B	NA		2.2	Y	Absent		8011(14)
L2307343-06E1	Vial Na2S2O3 preserved	B	NA		2.2	Y	Absent		8011(14)
L2307343-06E2	Vial Na2S2O3 preserved	B	NA		2.2	Y	Absent		8011(14)
L2307343-06F	Amber 250ml unpreserved	B	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-06F1	Amber 250ml unpreserved	B	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-06F2	Amber 250ml unpreserved	B	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-06G	Amber 250ml unpreserved	B	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-06G1	Amber 250ml unpreserved	B	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-06G2	Amber 250ml unpreserved	B	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-06H	Plastic 250ml HNO3 preserved	B	<2	<2	2.2	Y	Absent		PB-6020S-PPB(180)
L2307343-06H1	Plastic 250ml HNO3 preserved	B	<2	<2	2.2	Y	Absent		PB-6020S-PPB(180)
L2307343-06H2	Plastic 250ml HNO3 preserved	B	<2	<2	2.2	Y	Absent		PB-6020S-PPB(180)
L2307343-07A	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-07A1	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-07A2	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-07B	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-07B1	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-07B2	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-07C	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-07C1	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-07C2	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-07D	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-07D1	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-07D2	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-07E	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-07E1	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)

*Values in parentheses indicate holding time in days

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2307343
Report Date: 02/17/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2307343-07E2	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-07F	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-07F1	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-07F2	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-07G	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-07G1	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-07G2	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-07H	Plastic 250ml HNO3 preserved	A	<2	<2	2.1	Y	Absent		PB-6020S-PPB(180)
L2307343-07H1	Plastic 250ml HNO3 preserved	A	<2	<2	2.1	Y	Absent		PB-6020S-PPB(180)
L2307343-07H2	Plastic 250ml HNO3 preserved	A	<2	<2	2.1	Y	Absent		PB-6020S-PPB(180)
L2307343-08A	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-08B	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-08C	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-08D	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-08E	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-08F	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-08G	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-08H	Plastic 250ml HNO3 preserved	A	<2	<2	2.1	Y	Absent		PB-6020S-PPB(180)
L2307343-09A	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-09B	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-09C	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-09D	Vial Na2S2O3 preserved	B	NA		2.2	Y	Absent		8011(14)
L2307343-09E	Vial Na2S2O3 preserved	B	NA		2.2	Y	Absent		8011(14)
L2307343-09F	Amber 250ml unpreserved	B	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-09G	Amber 250ml unpreserved	B	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-09H	Plastic 250ml HNO3 preserved	B	<2	<2	2.2	Y	Absent		PB-6020S-PPB(180)
L2307343-10A	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-10B	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)

*Values in parentheses indicate holding time in days

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2307343
Report Date: 02/17/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2307343-10C	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-10D	Vial Na2S2O3 preserved	B	NA		2.2	Y	Absent		8011(14)
L2307343-10E	Vial Na2S2O3 preserved	B	NA		2.2	Y	Absent		8011(14)
L2307343-10F	Amber 250ml unpreserved	B	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-10G	Amber 250ml unpreserved	B	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-10H	Plastic 250ml HNO3 preserved	B	<2	<2	2.2	Y	Absent		PB-6020S-PPB(180)
L2307343-11A	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-11B	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-11C	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-11D	Vial Na2S2O3 preserved	B	NA		2.2	Y	Absent		8011(14)
L2307343-11E	Vial Na2S2O3 preserved	B	NA		2.2	Y	Absent		8011(14)
L2307343-11F	Amber 250ml unpreserved	B	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-11G	Amber 250ml unpreserved	B	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-11H	Plastic 250ml HNO3 preserved	B	<2	<2	2.2	Y	Absent		PB-6020S-PPB(180)
L2307343-12A	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-12B	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-12C	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-12D	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-12E	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-12F	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-12G	Amber 250ml unpreserved	A	7	7	2.1	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-12H	Plastic 250ml HNO3 preserved	A	<2	<2	2.1	Y	Absent		PB-6020S-PPB(180)
L2307343-13A	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-13B	Vial HCl preserved	A	NA		2.1	Y	Absent		PA-8260(14)
L2307343-13C	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-13D	Vial Na2S2O3 preserved	A	NA		2.1	Y	Absent		8011(14)
L2307343-14A	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-14B	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)

*Values in parentheses indicate holding time in days

Project Name: FORMER PHILADELPHIA REFINERY
Project Number: P044.001.002

Lab Number: L2307343
Report Date: 02/17/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2307343-14C	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-14D	Vial Na2S2O3 preserved	B	NA		2.2	Y	Absent		8011(14)
L2307343-14E	Vial Na2S2O3 preserved	B	NA		2.2	Y	Absent		8011(14)
L2307343-14F	Amber 250ml unpreserved	B	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-14G	Amber 250ml unpreserved	B	7	7	2.2	Y	Absent		PA-PAHSIM-LVI(7)
L2307343-14H	Plastic 250ml HNO3 preserved	B	<2	<2	2.2	Y	Absent		PB-6020S-PPB(180)
L2307343-15A	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-15B	Vial HCl preserved	B	NA		2.2	Y	Absent		PA-8260(14)
L2307343-15C	Vial Na2S2O3 preserved	B	NA		2.2	Y	Absent		8011(14)
L2307343-15D	Vial Na2S2O3 preserved	B	NA		2.2	Y	Absent		8011(14)

Container Comments

L2307343-05F cap received cracked, sample is intact

*Values in parentheses indicate holding time in days

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2307343
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GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

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Data Qualifiers

Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	FORMER PHILADELPHIA REFINERY	**Lab Number:**	L2307343
Project Number:	P044.001.002	**Report Date:**	02/17/23

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 2/10/23

ALPHA Job #: L2307343

Client Information

Client: Terraphase Engineering
Address: 100 Canal Pointe Blvd. Princeton, NJ 08540 St. 110
Phone: 215-297-3502
Fax:
Email: nick.scala@terraphase.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Former Philadelphia Refinery
Project Location: 3144 Passyunk Ave.
Project #: P044 001.002
Project Manager: Nick Scala
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

EDD @ terraphase.com

Equis EDD

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOC's-5hrst L13+ 1-6	SVOC's-5hrst L13T 1-6	Lead	TOTAL # BOTTLES	Sample Specific Comments
07343-01	TG07-MW-03-230208	2/8/23	9:55	GW	EJ	X	X	X		
02	TG07-MW-02-230208	2/8/23	10:05	GW	KJO	X	X	X		
03	TG-07-MW-01-230208	2/8/23	12:~~05~~ 10 KJO	GW	EJ	X	X	X		
04	TG07-MW-08-230208	2/8/23	12:35	GW	KJO	X	X	X		
	~~TG07-MW-05-230208~~	~~2/8/23~~	~~14:40~~	~~GW~~	~~KJO~~ KJO	X	X	X		
05	TG07-MW-04-230208	2/8/23	14:40	GW	EJ	X	X	X		
06	TG04-MW-03-230209	2/9/23	8:45	GW	EJ	X	X	X		
06	TG04-MW-03-230209MS	2/9/23	8:45	GW	EJ	X	X	X		
06	TG04-MW-03-230209MSD	2/9/23	8:45	GW	EJ	X	X	X		
07	TG07-MW-05-230209	2/9/23	10:10	GW	KJO	X	X	X		

SAMPLE HANDLING

Filtration
☐ Done
☒ Not needed (lead field filtered)
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Container Type																			
Preservative																			

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	2/10/22 14:00	[signature]	2/10/23 900
Paul Mascelli	2/10/23	Paul Mascelli	2/10/23 1640

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 14-OCT-07)

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 2/10/23

ALPHA Job #: L2307343

ALPHA
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Terraphase Engineering
Address: 100 Canal Pointe Blvd. Ste. 110
Princeton, NJ 08540
Phone: 215-297-3502
Fax:
Email: nick.scala@terraphase.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Former Philadelphia Refinery
Project Location: 3144 Passyunk Ave.
Project #: P044.001.002
Project Manager: Nick Scala
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:
EDD @terraphase.com
Equis EDD

SAMPLE HANDLING
Filtration
☐ Done
☒ Not needed (Lead)
☐ Lab to do
Preservation (Brew Filtered)
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: VOC's - Short List 1-6	SVOC's-Short List 1-6	Lead	Sample Specific Comments	TOTAL # BOTTLES
07343-07	TG07-MW-05-230209MS	2/9/23	10:10	GW	KJO	Y	X	X		
07	TG07-MW-05-230209MSD	2/9/23	10:10	GW	KJO	X	X	X		
08	TG07-MW-05-230209D	2/9/23	10:10	GW	KJO	X	X	X		
09	S-219-230209	2/9/23	12:00	GW	EJ	X	X	X		
10	TG04-MW-01-230209	2/9/23	13:30	GW	KJO	X	X	X		
11	TG04-MW-01-230209D	2/9/23	13:30	GW	KJO	X	X	X		
12	FB-230209-1	2/9/23	14:06	FB	EJ	X	X	X		
13	TB-230209-1	2/9/23	14:06	TB	EJ	X				
14	FB-230209-2	2/9/23	14:15	FB	KJO	X	X	X		
15	TB-230209-2	2/9/23	14:15	TB	KJO	X				

Container Type																
Preservative																

Relinquished By:	Date/Time	Received By:	Date/Time
Paul Mascella	2/10/23 14:[illegible]	Paul Mascella	2/10/23 [illegible]
Paul Mascella	2/10/23	[illegible]	2/10/23 2030

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 14-OCT-07)

Appendix H

Release Notifications

August 19, 2022

Mr. Ron Estel
Pennsylvania Department of Environmental Protection
Southeast Regional Office
Division of Storage Tanks
2 East Main Street
Norristown, PA 19401

sent via UPS – Delivery Confirmation

Subject: **Philadelphia Energy Solutions Refining and Marketing, LLC**
PADEP Notification of Release Form – Tank Group 04
PADEP Facility ID #51-33620 – Point Breeze Refinery
Incident No. 57976
Initial Notification
3144 W. Passyunk Avenue, Philadelphia, PA 19141

Dear Mr. Estel:

Enclosed please find a copy of the Pennsylvania Department of Environmental Protection's (PADEP) Notification of Release Form for the Philadelphia Energy Solutions Refining and Marketing, LLC (PESRM) Point Breeze Refinery. The PADEP was notified via telephone on August 10, 2021, that Aboveground Storage Tank (AST) Site Assessment sampling, performed in Tank Group 04, identified constituents in soil at concentrations greater than the applicable PADEP Medium Specific Concentrations (MSCs). Specifically, concentrations greater than applicable MSCs were identified at tank PB-840 (053A), PB-884 (058A), and PB-848 (088A). This notification is the initial incident reported in Tank Group 04 (Incident #57976). Pursuant to discussions with our PADEP case team, this and any subsequent notifications required in Tank Group 04 will be combined with the incident number #57976.

Please contact me at kevin.long@terraphase.com / 609-236-8171 x93 or Nick Scala at nick.scala@terraphase.com / 609-236-8171 x92 with any questions.

Sincerely,

for Terraphase Engineering Inc.

Kevin Long
Principal Consultant

Nicholas Scala, PG, LSRP
Principal Geologist

KL/NS:cs

Enclosure: PADEP Notification of Release Form (Tank Group 04)

cc: Joseph Jeray (jjeray@hilcoglobal.com)
Stephanie Eggert (seggert@hilcoglobal.com)
Charles Barksdale (cbarksdale@hilcoglobal.com)
Bob Armstrong (rarmstrong@NorthStar.com)
Lisa Strobridge (PADEP – lstrobridge@pa.gov)
Ralph DiPietro (Philadelphia L & I – ralph.dipietro@phila.gov)

NOTIFICATION OF RELEASE *(Owners and Operators)*

FACILITY I.D. NUMBER 51 - 33620

☒ Initial
☐ Follow-Up

NOTIFICATION OF CONTAMINATION *(Certified Installers and Inspectors)*

INFORMATION FOR OWNERS AND OPERATORS (O/O)

The Storage Tank Program's Corrective Action Process (CAP) regulations establish requirements for owners and operators of storage tank systems and storage tank facilities to report confirmed releases and, in certain cases, suspected releases.

Suspected Release Reporting: Upon the completion of a suspected release investigation from which it could not be determined whether a release has occurred, the owner or operator must, within 15 days of the indication of the suspected release, complete and submit this form to the appropriate regional office of the Department (Subsection 245.304(c)(2)).

Confirmed Release Reporting: The owner or operator must notify the appropriate regional office of the Department by telephone as soon as practicable, but no later than 24 hours, after the confirmation of a release (Subsections 245.305(a) and (b)). Within 15 days of that telephone notification, the owner or operator must complete and submit this form to the appropriate regional office of the Department, to each municipality in which the release occurred, and to each municipality where that release has impacted environmental media or water supplies, buildings, or sewer or other utility lines (Subsections 245.305(c) and (e)). And if new impacts to environmental media or water supplies, buildings, or sewer or other utility lines are discovered after that initial written notification, the owner or operator must, within 15 days of the discovery of the new impact, complete and submit this form to the Department and to each impacted municipality (Subsections 245.305(d) and (e)).

INFORMATION FOR CERTIFIED INSTALLERS AND INSPECTORS (I/I)

In accordance with the Storage Tank Program's certification regulations, certified installers and inspectors must complete and submit this form to the Department within 48 hours of observing any of the following while performing services as a certified installer or inspector: a release of a regulated substance; suspected or confirmed contamination of soil, surface or groundwater from regulated substances; or a regulated substance in a containment structure or facility (Subsections 245.132(a)(4) and 245.132(a)(6)).

INSTRUCTIONS

Record the storage tank facility I.D. number at the top right-hand corner of each page of this form.

Owners and Operators (O/O): Indicate if this is an initial or follow-up notification by marking the appropriate box found in the top right-hand corner of this page.

- To report a Suspected Release, complete all information in Sections I, II, IIIA, IIIC, VI, VIII and IX.
- To report a Confirmed Release, complete all information in Sections I, II, IIIA, IIIB, IIIC, IV, V, VIII and IX.

Certified Installers and Inspectors (I/I): Complete all information in Sections I, II, IIIA, IIIC, VI or VII, VIII, and IX. Attach a copy of the failed, valid tightness test results, if applicable.

PLEASE SEND COMPLETED ORIGINAL FORM TO:
PA Department of Environmental Protection
Environmental Cleanup and Brownfields Program
Storage Tank Section
(and the appropriate address below, depending on where the FACILITY is located)

Northwest Region	North-central Region	Northeast Region
230 Chestnut Street Meadville, PA 16335-3481 PHONE: 814-332-6945 / 800-373-3398 FAX: 814-332-6121	208 W. Third Street, Suite 101 Williamsport, PA 17701 PHONE: 570-327-3636 FAX: 570-327-3420	2 Public Square Wilkes-Barre, PA 18701-1915 PHONE: 570-826-2511 FAX: 570-820-4907
Counties: Armstrong, Butler, Clarion, Crawford, Elk, Erie, Forest, Indiana, Jefferson, Lawrence, McKean, Mercer, Venango, Warren	**Counties:** Bradford, Cameron, Centre, Clearfield, Clinton, Columbia, Lycoming, Montour, Northumberland, Potter, Snyder, Sullivan, Tioga, Union	**Counties:** Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Schuylkill, Susquehanna, Wayne, Wyoming
Southwest Region	**South-central Region**	**Southeast Region**
400 Waterfront Drive Pittsburgh, PA 15222 PHONE: 412-442-4000 FAX: 412-442-4194	909 Elmerton Avenue Harrisburg, PA 17110 PHONE: 717-705-4705 / 800-541-2050 FAX: 717-705-4830	2 East Main Street Norristown, PA 19401 PHONE: 484-250-5900 FAX: 484-250-5961
Counties: Allegheny, Beaver, Cambria, Fayette, Greene, Somerset, Washington, Westmoreland	**Counties:** Adams, Bedford, Berks, Blair, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry, York	**Counties:** Bucks, Chester, Delaware, Montgomery, Philadelphia

I. FACILITY INFORMATION (Both O/O and I/I)

Facility Name: Philadelphia Refinery Point Breeze
Facility I.D. Number: 51-33620
Street Address (P.O. Box not acceptable): 3144 W. Passyunk Avenue
City: Philadelphia
State: PA
Zip Code: 19141 - 5299
County: Philadelphia
Municipality: Philadelphia
Contact Person: Anne Garr
Telephone Number: (312) 796 - 6564

II. OWNER/OPERATOR INFORMATION (Both O/O and I/I)

Owner Name: Philadelphia Energy Solutions Refining and Marketing, LLC
Address: 111 S. Wacker Dr, Suite 3000
City: Chicago
State: IL
Zip Code: 60606 -
Telephone Number: (312) 796 - 6564
Operator Name: Anne Garr
Telephone Number: (312) 796 - 6564

III. REGULATED SUBSTANCE INFORMATION

A. Type of Product(s) Involved (Mark All That Apply ☒): Both O/O and I/I		B. Quantity (Gallons) of Product(s) Released: O/O Only	C. Contamination Suspected [S] or Confirmed [C] (Mark All That Apply ☒): Both O/O and I/I	
Leaded Gasoline	☐		☐ [S]	☐ [C]
Unleaded Gasoline	☐		☐ [S]	☐ [C]
Aviation Gasoline	☐		☐ [S]	☐ [C]
Kerosene	☐		☐ [S]	☐ [C]
Jet Fuel	☐		☐ [S]	☐ [C]
Diesel Fuel	☐		☐ [S]	☐ [C]
New Motor Oil	☐		☐ [S]	☐ [C]
Used Motor Oil	☐		☐ [S]	☐ [C]
Fuel Oil No. 1	☐		☐ [S]	☐ [C]
Fuel Oil No. 2	☐		☐ [S]	☐ [C]
Fuel Oil No. 4	☐		☐ [S]	☐ [C]
Fuel Oil No. 5	☐		☐ [S]	☐ [C]
Fuel Oil No. 6	☐		☐ [S]	☐ [C]
Other (Specify) Crude, Light Cycle Oil	☒	UNKNOWN	☐ [S]	☒ [C]
Unknown	☐		☐ [S]	☐ [C]

IV. CONFIRMED RELEASE INFORMATION (O/O Only)

Date Release was Confirmed: 08 (m) / 10 (d) / 2022 (y)

Date Owner/Operator Verbally Notified Appropriate Regional Office of Confirmed Release and Office Notified:
Date: 08 (m) / 10 (d) / 2022 (y) Office: Southeast Region

Date Owner/Operator Sent Copy of this Written Notification to Local Municipality(ies) and Name of Municipality(ies) Notified:
Date: 08 (m) / 19 (d) / 2022 (y) Municipality: Philadelphia
Date: ____ (m) / ____ (d) / ____ (y) Municipality: ____

Source (Mark All That Apply ☒):

- Tank (DEP Assigned Nos. 053A, 058A, 088A) ☒
- Piping System (Aboveground Regulated) ☒
- Piping System (Underground Regulated) ☐
- Piping System (Non-Regulated) ☐
- Dispenser/Dispensing Equipment ☐
- Spill Prevention Equipment ☐
- Submersible Turbine Pump Head/Fittings ☐
- Containment/Sump Failure ☐
- Other (Specify) ____ ☐
- Unknown ☐

Cause (Mark All That Apply ☒):

- Faulty Installation ☐
- Corrosion ☐
- Physical/Mechanical Failure ☐
- Spill During Delivery ☐
- Overfill at Delivery ☐
- Vehicle Gas Tank Overfill ☐
- Product Delivery Hose Rupture ☐
- Accident/Natural Disaster ☐
- Other (Specify) ____ ☐
- Unknown ☐

How Discovered (Mark All That Apply ☒):

- During Closure ☒
- Lining Installation ☐
- Routine Leak Detection ☐
- Third Party Inspection ☐
- Tightness Testing Activities ☐
- Visible Product or Odor Reports ☐
- Water in Tank ☐
- Construction ☐
- Upgrade/Repair ☐
- Supply Well Sample Results ☐
- Monitoring Well Sample Results ☐
- Property Transfer ☐
- Other (Specify) Site Assessment Sampling ☒
- Unknown ☐

Environmental Media Affected and Impacts (Mark All That Apply ☒):

- Soil ☒
- Sediment ☐
- Surface Water ☐
- Ground Water ☐
- Bedrock ☐
- Water Supplies ☐
- Vapors/Product in Buildings ☐
- Vapors/Product in Sewer/Utility Lines ☐
- Ecological Receptors ☐

V. INTERIM REMEDIAL ACTIONS (O/O Only)

Indicate the Interim Remedial Actions Planned, Initiated or Completed (Mark All That Apply ☒):

	Planned	Initiated	Completed	Not Applicable
Regulated Substance Removed from Storage Tanks	☐	☐	☒	☐
Fire, Explosion and Safety Hazards Mitigated	☐	☐	☒	☐
Contaminated Soil Excavated	☐	☐	☐	☐
Free Product Recovered	☐	☐	☐	☒
Water Supplies Identified and Sampled	☐	☐	☐	☒
Temporary Water Supplies Provided	☐	☐	☐	☒
Other (Specify) Site Characterization	☒	☐	☐	☐

VI. SUSPECTED RELEASE / CONTAMINATION INFORMATION (Both O/O and I/I)

Date the Indication of a Suspected Release / Contamination was Observed: 08 (m) / 10 (d) / 2022 (y)

Indication of Suspected Release / Contamination (Mark All That Apply ☒):

- ☐ Unusual Level of Vapors
- ☐ Erratic Behavior of Product Dispensing Equipment
- ☐ Release Detection Results Indicate a Release
- ☐ Discovery of Holes in the Storage Tank
- ☐ Containment Sump Test Failure
- ☐ Spill Prevention Equipment Test Failure
- ☒ Other (Specify) Site Assessment Sampling Results

VII. CONFIRMED CONTAMINATION INFORMATION (I/I Only)

Date the Confirmed Contamination was Observed: 08 (m) / 10 (d) / 2022 (y)

Extent of Confirmed Contamination (Mark All That Apply ☒):

- ☐ Product Stained or Product Saturated Soil or Backfill
- ☐ Ponded Product
- ☐ Free Product or Sheen on Ponded Water
- ☐ Free Product or Sheen on the Ground Water Surface
- ☐ Free Product or Sheen on Surface Water
- ☒ Other (Specify) Site Assessment Sampling Results

VIII. ADDITIONAL INFORMATION (Both O/O and I/I)

Provide any additional, relevant, available information concerning the release or contamination. If reporting a confirmed release, include specific details about the source and cause of the release, the affected environmental media, and any impacts to water supplies, buildings, or sewer or other utility lines. Owners or Operators reporting a suspected release should describe what procedures were followed to investigate the indication(s) of the suspected release noted in Section VI. Provide both DEP-assigned and owner/operator-assigned tank number(s), where applicable. Use additional 8½" x 11" sheets of paper, if necessary.

Work is being performed at the Site in accordance with the Aboveground Storage Tank Closure Work Plan (AST Work Plan) (Terraphase 2021). The PADEP approved the AST Work Plan on April 23, 2021. Pursuant to the AST Work Plan, Site Assessment sampling is being performed in Tank Groups. This notification is provided to PADEP to report that the Site Assessment sampling performed in Tank Group 04 has identified chemical concentrations in soil at levels above applicable Statewide Health Medium Specific Concentrations (MSCs). The following chemicals were detected in soil samples at concentrations greater than the applicable MSCs: benzene and lead. Site characterization will be performed to understand the nature and extent of these concentrations above MSCs and to further assess whether these conditions actually reflect a release to the environment from these ASTs.

This notification is the initial incident reported in Tank Group 04 (Incident #57976). Pursuant to discussions with our PADEP case team, this and any subsequent notifications required in Tank Group 04 will be combined with the incident number #57976.

IX. CERTIFICATION (Both O/O and I/I)

OWNER OR OPERATOR CERTIFICATION

I, Anne R. Garr, Assistant Secretary, hereby certify, under penalty of law as provided in 18 Pa.
(Print Name)

C.S.A. §4904 (relating to unsworn falsification to authorities) that I am the owner or operator of the above referenced storage tank facility and that the information provided by me in this notification is true, accurate and complete to the best of my knowledge and belief.

Signature of Owner or Operator

08 / 17 / 2022
Date

CERTIFIED INSTALLER CERTIFICATION

I, _____, hereby certify, under penalty of law as provided in 18 Pa.
(Print Name)

C.S.A. §4904 (relating to unsworn falsification to authorities) that I am the certified installer who performed tank handling activities at the above referenced storage tank facility and that the information provided by me in this notification is true, accurate and complete to the best of my knowledge and belief.

Signature of Certified Installer

/ /
Date

Installer Certification Number

Company Certification Number

CERTIFIED INSPECTOR CERTIFICATION

I, _____, hereby certify, under penalty of law as provided in 18 Pa.
(Print Name)

C.S.A. §4904 (relating to unsworn falsification to authorities) that I am the certified inspector who performed inspection activities at the above referenced storage tank facility and that the information provided by me in this notification is true, accurate and complete to the best of my knowledge and belief.

Signature of Certified Inspector

/ /
Date

Inspector Certification Number

Company Certification Number

Appendix I

Site Assessment and Site Characterization Soil and Groundwater Analytical Results

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-191-01	PB-191-02	PB-191-03	PB-191-04	PB-191-05	PB-191-06	PB-191-07	PB-191-07	PB-191-08	PB-826-01	PB-826-02	PB-826-03
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-191-01-SS01	PB-191-02-SS01	PB-191-03-SS01	PB-191-04-SS01	PB-191-05-SS01	PB-191-06-SS01	PB-191-07-SS01	DUP-25	PB-191-08-SS01	PB-826-01-SS01	PB-826-02-SS01	PB-826-03-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	4.0 - 4.5	3.0 - 3.5	3.0 - 3.5	1.5 - 2.0	3.0 - 3.5	0.5 - 1.0	4.5 - 5.0	4.5 - 5.0	4.5 - 5.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	12/9/2021	12/9/2021	7/15/2022	12/9/2021	12/9/2021	12/9/2021	12/9/2021	12/9/2021	12/9/2021	7/13/2022	7/13/2022	7/13/2022
Comments	(0-2 ft)	(2-15 ft)	MSCs								Field Duplicate				
Volatile Organic Compounds															
Benzene	280	330	0.5	ND (0.00073)	0.0094 (0.0012)	ND (0.00066)	0.0012 (0.00065)	ND (0.00058)	ND (0.00057)	ND (0.0011)	ND (0.00071)	0.0003 J (0.00057)	ND (0.00069)	ND (0.00052)	ND (0.00063)
Cumene	10000	10000	2500	ND (0.0014)	0.0022 J (0.0024)	ND (0.0013)	0.0015 (0.0013)	0.00027 J (0.0012)	0.0036 (0.0011)	ND (0.0022)	0.0082 (0.0014)	0.003 (0.0011)	ND (0.0014)	ND (0.001)	ND (0.0013)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00073)	ND (0.0012)	ND (0.00066)	ND (0.00065)	ND (0.00058)	ND (0.00057)	ND (0.0011)	ND (0.00071)	ND (0.00057)	ND (0.00069)	ND (0.00052)	ND (0.00063)
1,2-Dichloroethane	85	98	0.5	ND (0.0014)	ND (0.0024)	ND (0.0013)	ND (0.0013)	ND (0.0012)	ND (0.0011)	ND (0.0022)	ND (0.0014)	ND (0.0011)	ND (0.0014)	ND (0.001)	ND (0.0013)
Ethyl Benzene	880	1000	70	ND (0.0014)	0.0012 J (0.0024)	ND (0.0013)	0.001 J (0.0013)	ND (0.0012)	ND (0.0011)	ND (0.0022)	ND (0.0014)	0.00021 J (0.0011)	ND (0.0014)	ND (0.001)	ND (0.0013)
Methyl tert-butyl ether	8500	9800	2	ND (0.0029)	ND (0.0049)	ND (0.0026)	ND (0.0026)	ND (0.0023)	ND (0.0023)	ND (0.0043)	ND (0.0028)	ND (0.0023)	0.00032 J (0.0028)	0.001 J (0.0021)	0.02 (0.0025)
Toluene	10000	10000	100	ND (0.0014)	0.0015 J (0.0024)	ND (0.0013)	ND (0.0013)	ND (0.0012)	ND (0.0011)	ND (0.0022)	ND (0.0014)	ND (0.0011)	ND (0.0014)	ND (0.001)	ND (0.0013)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0029)	0.0013 J (0.0049)	ND (0.0026)	0.0023 J (0.0026)	ND (0.0023)	0.00046 J (0.0023)	ND (0.0043)	ND (0.0028)	0.0031 (0.0023)	ND (0.0028)	ND (0.0021)	ND (0.0025)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0029)	0.00054 J (0.0049)	ND (0.0026)	0.0013 J (0.0026)	ND (0.0023)	ND (0.0023)	ND (0.0043)	ND (0.0028)	0.00066 J (0.0023)	ND (0.0028)	ND (0.0021)	ND (0.0025)
Xylenes (total)	7900	9100	1000	ND (0.0029)	0.0047 J (0.0049)	ND (0.0026)	0.0032 J (0.0026)	ND (0.0023)	ND (0.0023)	ND (0.0043)	ND (0.0028)	0.00285 J (0.0023)	ND (0.0028)	ND (0.0021)	ND (0.0025)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	ND (0.12)	ND (0.12)	ND (0.12)	0.049 J (0.13)	ND (0.1)	ND (0.6)	0.16 (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.1)
Benzo(a)anthracene	130	190000	340	0.17 (0.12)	0.077 J (0.12)	0.11 J (0.12)	0.095 J (0.13)	ND (0.1)	ND (0.6)	0.21 (0.12)	ND (0.12)	0.047 J (0.12)	ND (0.12)	ND (0.1)	ND (0.1)
Benzo(a)pyrene	91	190000	46	0.15 J (0.16)	0.071 J (0.16)	0.12 J (0.17)	0.076 J (0.18)	ND (0.14)	ND (0.8)	0.18 (0.16)	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.14)	ND (0.14)
Benzo(b)fluoranthene	76	190000	170	0.19 (0.12)	0.089 J (0.12)	0.13 (0.12)	0.099 J (0.13)	ND (0.1)	ND (0.6)	0.17 (0.12)	ND (0.12)	0.054 J (0.12)	ND (0.12)	ND (0.1)	ND (0.1)
Benzo(g,h,i)perylene	190000	190000	180	0.088 J (0.16)	0.062 J (0.16)	0.06 J (0.17)	0.056 J (0.18)	ND (0.14)	ND (0.8)	0.19 (0.16)	ND (0.16)	0.043 J (0.16)	ND (0.16)	ND (0.14)	ND (0.14)
Chrysene	760	190000	230	0.16 (0.12)	0.08 J (0.12)	0.1 J (0.12)	0.095 J (0.13)	ND (0.1)	ND (0.6)	0.26 (0.12)	ND (0.12)	0.052 J (0.12)	ND (0.12)	ND (0.1)	ND (0.1)
Fluorene	130000	190000	3800	ND (0.2)	ND (0.21)	ND (0.21)	0.054 J (0.22)	ND (0.18)	ND (1)	0.061 J (0.2)	0.044 J (0.2)	ND (0.19)	ND (0.2)	ND (0.17)	ND (0.17)
Indeno(1,2,3-cd)pyrene	76	190000	18000	0.1 J (0.16)	0.055 J (0.16)	0.07 J (0.17)	0.056 J (0.18)	ND (0.14)	ND (0.8)	0.11 J (0.16)	ND (0.16)	0.031 J (0.16)	NA	NA	NA
Naphthalene	66	77	25	0.039 J (0.2)	0.063 J (0.21)	ND (0.21)	0.1 J (0.22)	ND (0.18)	ND (1)	0.23 (0.2)	ND (0.2)	0.059 J (0.19)	ND (0.2)	ND (0.17)	ND (0.17)
Phenanthrene	190000	190000	10000	0.11 J (0.12)	0.092 J (0.12)	ND (0.12)	0.19 (0.13)	ND (0.1)	ND (0.6)	0.77 (0.12)	ND (0.12)	0.084 J (0.12)	ND (0.12)	ND (0.1)	ND (0.1)
Pyrene	96000	190000	2200	0.22 (0.12)	0.1 J (0.12)	0.16 (0.12)	0.14 (0.13)	ND (0.1)	ND (0.6)	0.44 (0.12)	0.021 J (0.12)	0.07 J (0.12)	ND (0.12)	ND (0.1)	ND (0.1)
Metals															
Lead	1000	190000	450	110 (2.34)	46.8 (2.36)	19.8 (2.41)	295 (2.62)	12.8 (10.5)	26.5 (2.38)	176 (4.59)	218 (4.72)	84.5 (2.3)	3.14 J (4.68)	3.36 J (4.04)	3.14 J (4.08)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.

2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).

3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-826-04	PB-826-05	PB-826-06	PB-826-07	PB-826-08	PB-826-09	PB-826-10	PB-826-11	PB-826-12	PB-826-13	PB-826-14	PB-826-15
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-826-04-SS01	PB-826-05-SS01	PB-826-06-SS01	PB-826-07-SS01	PB-826-08-SS01	PB-826-09-SS01	PB-826-10-SS01	PB-826-11-SS01	PB-826-12-SS01	PB-826-13-SS01	PB-826-14-SS01	PB-826-15-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	4.5 - 5.0	4.5 - 5.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/13/2022	7/13/2022	7/13/2022	7/13/2022	7/13/2022	7/13/2022	7/13/2022	7/14/2022	7/14/2022	7/14/2022	7/14/2022	7/14/2022
Comments	(0-2 ft)	(2-15 ft)	MSCs												
Volatile Organic Compounds															
Benzene	280	330	0.5	ND (0.00097)	ND (0.00055)	ND (0.00075)	ND (0.00061)	0.00033 J (0.00051)	ND (0.00068)	ND (0.00073)	ND (0.00059)	ND (0.00055)	ND (0.0007)	ND (0.031)	ND (0.00086)
Cumene	10000	10000	2500	ND (0.0019)	ND (0.0011)	ND (0.0015)	ND (0.0012)	ND (0.001)	ND (0.0014)	ND (0.0015)	ND (0.0012)	ND (0.0011)	ND (0.0014)	0.28 (0.062)	ND (0.0017)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00097)	ND (0.00055)	ND (0.00075)	ND (0.00061)	ND (0.00051)	ND (0.00068)	ND (0.00073)	ND (0.00059)	ND (0.00055)	ND (0.0007)	ND (0.031)	ND (0.00086)
1,2-Dichloroethane	85	98	0.5	ND (0.0019)	ND (0.0011)	ND (0.0015)	ND (0.0012)	ND (0.001)	ND (0.0014)	ND (0.0015)	ND (0.0012)	ND (0.0011)	ND (0.0014)	ND (0.062)	ND (0.0017)
Ethyl Benzene	880	1000	70	ND (0.0019)	ND (0.0011)	ND (0.0015)	ND (0.0012)	ND (0.001)	ND (0.0014)	ND (0.0015)	ND (0.0012)	ND (0.0011)	ND (0.0014)	0.73 (0.062)	ND (0.0017)
Methyl tert-butyl ether	8500	9800	2	0.0012 J (0.0039)	ND (0.0022)	0.013 (0.003)	0.016 (0.0024)	ND (0.002)	ND (0.0027)	ND (0.0029)	ND (0.0024)	ND (0.0022)	ND (0.0028)	ND (0.12)	ND (0.0034)
Toluene	10000	10000	100	ND (0.0019)	ND (0.0011)	ND (0.0015)	ND (0.0012)	ND (0.001)	ND (0.0014)	ND (0.0015)	ND (0.0012)	ND (0.0011)	ND (0.0014)	ND (0.062)	ND (0.0017)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0039)	ND (0.0022)	ND (0.003)	ND (0.0024)	ND (0.002)	ND (0.0027)	ND (0.0029)	ND (0.0024)	ND (0.0022)	ND (0.0028)	12 (0.12)	ND (0.0034)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0039)	ND (0.0022)	ND (0.003)	ND (0.0024)	ND (0.002)	ND (0.0027)	ND (0.0029)	ND (0.0024)	ND (0.0022)	ND (0.0028)	4.4 (0.12)	ND (0.0034)
Xylenes (total)	7900	9100	1000	ND (0.0039)	ND (0.0022)	ND (0.003)	ND (0.0024)	ND (0.002)	ND (0.0027)	ND (0.0029)	ND (0.0024)	ND (0.0022)	ND (0.0028)	0.214 J (0.12)	ND (0.0034)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	ND (0.1)	ND (0.1)	ND (0.11)	ND (0.1)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.1)	ND (0.11)	0.061 J (0.12)	ND (0.12)
Benzo(a)anthracene	130	190000	340	ND (0.1)	ND (0.1)	ND (0.11)	ND (0.1)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.1)	ND (0.11)	0.03 J (0.12)	0.069 J (0.12)
Benzo(a)pyrene	91	190000	46	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.16)	ND (0.16)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.16)	0.053 J (0.15)
Benzo(b)fluoranthene	76	190000	170	ND (0.1)	ND (0.1)	ND (0.11)	ND (0.1)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.1)	ND (0.11)	ND (0.12)	0.055 J (0.12)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.16)	ND (0.16)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.16)	0.041 J (0.15)
Chrysene	760	190000	230	ND (0.1)	ND (0.1)	ND (0.11)	ND (0.1)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.1)	ND (0.11)	0.042 J (0.12)	0.095 J (0.12)
Fluorene	130000	190000	3800	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.17)	ND (0.2)	ND (0.2)	ND (0.18)	ND (0.18)	ND (0.17)	ND (0.18)	0.18 J (0.19)	ND (0.19)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.17)	ND (0.2)	ND (0.2)	ND (0.18)	ND (0.18)	ND (0.17)	ND (0.18)	0.32 (0.19)	0.052 J (0.19)
Phenanthrene	190000	190000	10000	ND (0.1)	ND (0.1)	ND (0.11)	ND (0.1)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.1)	ND (0.11)	0.64 (0.12)	0.15 (0.12)
Pyrene	96000	190000	2200	ND (0.1)	ND (0.1)	ND (0.11)	ND (0.1)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.1)	ND (0.11)	0.16 (0.12)	0.18 (0.12)
Metals															
Lead	1000	190000	450	3.88 J (4.14)	3.46 J (4.14)	8.1 J (10.4)	3.19 J (10.3)	4.67 J (4.69)	5.55 (4.83)	3.72 J (4.13)	3.61 J (4.12)	3 J (4.04)	4.29 (4.12)	8.32 (2.23)	162 (2.2)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.

2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).

3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-826-15	PB-826-16	PB-840-01	PB-840-01	PB-840-02	PB-840-03	PB-840-04	PB-840-05	PB-840-06	PB-840-07	PB-840-08	PB-840-09
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	DUP-44	PB-826-16-SS01	PB-840-01-SS01	DUP-38	PB-840-02-SS01	PB-840-03-SS01	PB-840-04-SS01	PB-840-05-SS01	PB-840-06-SS01	PB-840-07-SS01	PB-840-08-SS01	PB-840-09-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	4.5 - 5.0	3.0 - 3.5	3.0 - 3.5	4.5 - 5.0	3.0 - 3.5	3.0 - 3.5	4.5 - 5.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/14/2022	7/14/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022
Comments	(0-2 ft)	(2-15 ft)	MSCs	Field Duplicate			Field Duplicate								
Volatile Organic Compounds															
Benzene	280	330	0.5	0.068 (0.036)	ND (0.00089)	0.006 (0.0008)	ND (0.00057)	0.00021 J (0.00051)	ND (0.00048)	ND (0.00052)	ND (0.00072)	ND (0.00046)	0.023 (0.00056)	0.00069 (0.00055)	4.4 (0.15)
Cumene	10000	10000	2500	1 (0.071)	ND (0.0018)	0.0092 (0.0016)	ND (0.0011)	0.00034 J (0.001)	0.00015 J (0.00095)	ND (0.001)	ND (0.0014)	0.0016 (0.00093)	0.002 (0.0011)	0.00015 J (0.0011)	15 (0.3)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.036)	ND (0.00089)	ND (0.0008)	ND (0.00057)	ND (0.00051)	ND (0.00048)	ND (0.00052)	ND (0.00072)	ND (0.00046)	ND (0.00056)	ND (0.00055)	ND (0.15)
1,2-Dichloroethane	85	98	0.5	ND (0.071)	ND (0.0018)	ND (0.0016)	ND (0.0011)	ND (0.001)	ND (0.00095)	ND (0.001)	ND (0.0014)	ND (0.00093)	ND (0.0011)	ND (0.0011)	ND (0.3)
Ethyl Benzene	880	1000	70	0.56 (0.071)	ND (0.0018)	0.00068 J (0.0016)	ND (0.0011)	0.00019 J (0.001)	0.00028 J (0.00095)	ND (0.001)	ND (0.0014)	0.00058 J (0.00093)	0.016 (0.0011)	ND (0.0011)	66 (0.3)
Methyl tert-butyl ether	8500	9800	2	ND (0.14)	ND (0.0036)	ND (0.0032)	ND (0.0023)	ND (0.002)	ND (0.0019)	ND (0.0021)	ND (0.0029)	ND (0.0018)	ND (0.0022)	ND (0.0022)	ND (0.61)
Toluene	10000	10000	100	0.051 J (0.071)	ND (0.0018)	0.0026 (0.0016)	ND (0.0011)	ND (0.001)	ND (0.00095)	ND (0.001)	ND (0.0014)	ND (0.00093)	0.00079 J (0.0011)	ND (0.0011)	0.3 (0.3)
1,2,4-Trimethylbenzene	4700	5400	300	15 (0.14)	0.00061 J (0.0036)	0.0014 J (0.0032)	ND (0.0023)	0.0035 (0.002)	ND (0.0019)	ND (0.0021)	ND (0.0029)	ND (0.0018)	0.019 (0.0022)	ND (0.0022)	92 (1.2)
1,3,5-Trimethylbenzene	4700	5400	93	4.8 (0.14)	0.00089 J (0.0036)	0.0023 J (0.0032)	ND (0.0023)	0.0059 (0.002)	0.00062 J (0.0019)	ND (0.0021)	0.00047 J (0.0029)	ND (0.0018)	0.0056 (0.0022)	ND (0.0022)	33 (0.61)
Xylenes (total)	7900	9100	1000	29.4 J (0.14)	ND (0.0036)	0.008 J (0.0032)	ND (0.0023)	0.0025 J (0.002)	ND (0.0019)	ND (0.0021)	ND (0.0029)	ND (0.0018)	0.0441 J (0.0022)	ND (0.0022)	197 J (0.61)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	ND (0.1)	ND (0.11)	ND (0.12)	0.092 J (0.11)	ND (0.11)	ND (0.11)	ND (0.1)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	0.16 (0.12)
Benzo(a)anthracene	130	190000	340	0.027 J (0.1)	ND (0.11)	0.15 (0.12)	0.44 (0.11)	ND (0.11)	ND (0.11)	ND (0.1)	0.03 J (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	0.97 (0.12)
Benzo(a)pyrene	91	190000	46	ND (0.14)	ND (0.15)	0.15 J (0.16)	0.4 (0.15)	ND (0.15)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.16)	ND (0.16)	0.096 J (0.15)
Benzo(b)fluoranthene	76	190000	170	0.029 J (0.1)	ND (0.11)	0.18 (0.12)	0.52 (0.11)	ND (0.11)	ND (0.11)	ND (0.1)	0.053 J (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	0.12 (0.12)
Benzo(g,h,i)perylene	190000	190000	180	0.027 J (0.14)	ND (0.15)	0.12 J (0.16)	0.18 (0.15)	ND (0.15)	ND (0.15)	ND (0.14)	0.025 J (0.14)	ND (0.15)	ND (0.16)	ND (0.16)	0.072 J (0.15)
Chrysene	760	190000	230	0.15 (0.1)	ND (0.11)	0.22 (0.12)	0.43 (0.11)	ND (0.11)	ND (0.11)	ND (0.1)	0.056 J (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	0.22 (0.12)
Fluorene	130000	190000	3800	0.39 (0.17)	ND (0.19)	ND (0.2)	0.052 J (0.19)	ND (0.18)	ND (0.19)	ND (0.17)	0.023 J (0.18)	ND (0.18)	ND (0.19)	ND (0.2)	1.9 (0.19)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	2.7 (0.17)	0.025 J (0.19)	0.046 J (0.2)	0.045 J (0.19)	ND (0.18)	ND (0.19)	ND (0.17)	0.075 J (0.18)	ND (0.18)	ND (0.19)	ND (0.2)	9.3 (1.9)
Phenanthrene	190000	190000	10000	0.99 (0.1)	ND (0.11)	0.19 (0.12)	0.39 (0.11)	ND (0.11)	ND (0.11)	ND (0.1)	0.073 J (0.11)	0.049 J (0.11)	ND (0.12)	ND (0.12)	4.8 (0.12)
Pyrene	96000	190000	2200	0.085 J (0.1)	ND (0.11)	0.21 (0.12)	0.53 (0.11)	ND (0.11)	ND (0.11)	ND (0.1)	0.056 J (0.11)	0.018 J (0.11)	ND (0.12)	ND (0.12)	0.48 (0.12)
Metals															
Lead	1000	190000	450	1.7 J (2.11)	6.77 (2.22)	19.2 (4.58)	36.7 (2.2)	4.66 (2.26)	5.92 (2.29)	10.9 (2.02)	103 (2.12)	6.05 (2.2)	4.94 (2.26)	5.75 (2.33)	4.3 (2.27)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.

2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).

3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-840-09	PB-840-10	PB-840-11	PB-840-12	PB-840-13	PB-840-14	PB-840-15	PB-840-16	PB-841-01	PB-841-02	PB-841-03	PB-841-04
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	04-MW-01-10.0-10.5	PB-840-10-SS01	PB-840-11-SS01	PB-840-12-SS01	PB-840-13-SS01	PB-840-14-SS01	PB-840-15-SS01	PB-840-16-SS01	PB-841-01-SS01	PB-841-02-SS01	PB-841-03-SS01	PB-841-04-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	10.0 - 10.5	3.0 - 3.5	2.5 - 3.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	12/20/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022
Comments	(0-2 ft)	(2-15 ft)	MSCs												
Volatile Organic Compounds															
Benzene	280	330	0.5	ND (0.00052)	ND (0.00055)	0.0084 (0.00039)	ND (0.00053)	ND (0.00059)	ND (0.00054)	ND (0.00055)	ND (0.00044)	ND (0.00064)	ND (0.0006)	ND (0.00054)	ND (0.00039)
Cumene	10000	10000	2500	ND (0.001)	ND (0.0011)	0.0058 (0.00078)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0011)	ND (0.00089)	ND (0.0013)	ND (0.0012)	ND (0.0011)	ND (0.00078)
1,2-Dibromoethane	3.7	4.2	0.005	NA	ND (0.00055)	ND (0.00039)	ND (0.00053)	ND (0.00059)	ND (0.00054)	ND (0.00055)	ND (0.00044)	ND (0.00064)	ND (0.0006)	ND (0.00054)	ND (0.00039)
1,2-Dichloroethane	85	98	0.5	NA	ND (0.0011)	ND (0.00078)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0011)	ND (0.00089)	ND (0.0013)	ND (0.0012)	ND (0.0011)	ND (0.00078)
Ethyl Benzene	880	1000	70	ND (0.001)	ND (0.0011)	0.0097 (0.00078)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0011)	ND (0.00089)	ND (0.0013)	ND (0.0012)	ND (0.0011)	ND (0.00078)
Methyl tert-butyl ether	8500	9800	2	ND (0.0021)	ND (0.0022)	ND (0.0016)	ND (0.0021)	ND (0.0024)	ND (0.0022)	ND (0.0022)	ND (0.0018)	ND (0.0025)	ND (0.0024)	ND (0.0021)	ND (0.0016)
Toluene	10000	10000	100	NA	ND (0.0011)	ND (0.00078)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0011)	ND (0.00089)	ND (0.0013)	ND (0.0012)	ND (0.0011)	ND (0.00078)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0021)	0.012 (0.0022)	0.072 (0.0016)	ND (0.0021)	ND (0.0024)	ND (0.0022)	ND (0.0022)	ND (0.0018)	ND (0.0025)	ND (0.0024)	ND (0.0021)	ND (0.0016)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0021)	0.0038 (0.0022)	0.04 (0.0016)	ND (0.0021)	ND (0.0024)	ND (0.0022)	ND (0.0022)	ND (0.0018)	ND (0.0025)	ND (0.0024)	ND (0.0021)	ND (0.0016)
Xylenes (total)	7900	9100	1000	ND (0.0021)	0.02255 J (0.0022)	0.0589 J (0.0016)	ND (0.0021)	ND (0.0024)	ND (0.0022)	ND (0.0022)	ND (0.0018)	ND (0.0025)	ND (0.0024)	ND (0.0021)	ND (0.0016)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	NA	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.11)	0.11 (0.11)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Benzo(a)anthracene	130	190000	340	NA	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.11)	0.18 (0.11)	0.48 (0.11)	0.12 (0.11)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Benzo(a)pyrene	91	190000	46	NA	ND (0.15)	ND (0.16)	ND (0.15)	ND (0.15)	0.18 (0.14)	0.46 (0.14)	0.14 J (0.15)	ND (0.14)	ND (0.14)	ND (0.13)	ND (0.14)
Benzo(b)fluoranthene	76	190000	170	NA	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.11)	0.22 (0.11)	0.57 (0.11)	0.18 (0.11)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Benzo(g,h,i)perylene	190000	190000	180	NA	ND (0.15)	ND (0.16)	ND (0.15)	ND (0.15)	0.099 J (0.14)	0.22 (0.14)	0.098 J (0.15)	ND (0.14)	ND (0.14)	ND (0.13)	ND (0.14)
Chrysene	760	190000	230	NA	ND (0.11)	0.041 J (0.12)	ND (0.11)	ND (0.11)	0.17 (0.11)	0.44 (0.11)	0.13 (0.11)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Fluorene	130000	190000	3800	NA	ND (0.19)	0.072 J (0.2)	ND (0.19)	ND (0.18)	ND (0.18)	0.05 J (0.18)	ND (0.18)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.19)	ND (0.19)	0.09 J (0.2)	ND (0.19)	ND (0.18)	ND (0.18)	0.091 J (0.18)	ND (0.18)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)
Phenanthrene	190000	190000	10000	NA	ND (0.11)	0.18 (0.12)	ND (0.11)	ND (0.11)	0.17 (0.11)	0.41 (0.11)	0.14 (0.11)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Pyrene	96000	190000	2200	NA	ND (0.11)	0.031 J (0.12)	ND (0.11)	ND (0.11)	0.28 (0.11)	0.68 (0.11)	0.18 (0.11)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Metals															
Lead	1000	190000	450	9.99 (2.27)	5.38 (2.25)	7.06 (2.36)	5.21 (2.26)	6.78 (2.1)	44.4 (2.09)	49.2 (4.3)	53.1 (2.22)	3.27 (2.07)	3.32 (1.98)	3.07 (2.01)	5.88 (2)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.

2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).

3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-841-05	PB-841-06	PB-841-07	PB-841-08	PB-841-09	PB-841-09	PB-841-10	PB-841-11	PB-841-12	PB-841-13	PB-841-14	PB-843-01
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-841-05-SS01	PB-841-06-SS01	PB-841-07-SS01	PB-841-08-SS01	PB-841-09-SS01	DUP-42	PB-841-10-SS01	PB-841-11-SS01	PB-841-12-SS01	PB-841-13-SS01	PB-841-14-SS01	PB-843-01-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	4.5 - 5.0	4.5 - 5.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	4.0 - 4.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/11/2022
Comments	(0-2 ft)	(2-15 ft)	MSCs						Field Duplicate						
Volatile Organic Compounds															
Benzene	280	330	0.5	ND (0.0006)	ND (0.00059)	ND (0.00087)	ND (0.00065)	ND (0.0014)	ND (0.00059)	ND (0.00061)	ND (0.00069)	0.0002 J (0.00046)	ND (0.00086)	0.00032 J (0.00058)	ND (0.0005)
Cumene	10000	10000	2500	ND (0.0012)	ND (0.0012)	ND (0.0017)	ND (0.0013)	ND (0.0027)	ND (0.0012)	ND (0.0012)	ND (0.0014)	ND (0.00092)	ND (0.0017)	ND (0.0012)	ND (0.001)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.0006)	ND (0.00059)	ND (0.00087)	ND (0.00065)	ND (0.0014)	ND (0.00059)	ND (0.00061)	ND (0.00069)	ND (0.00046)	ND (0.00086)	ND (0.00058)	ND (0.0005)
1,2-Dichloroethane	85	98	0.5	ND (0.0012)	ND (0.0012)	ND (0.0017)	ND (0.0013)	ND (0.0027)	ND (0.0012)	ND (0.0012)	ND (0.0014)	ND (0.00092)	ND (0.0017)	ND (0.0012)	ND (0.001)
Ethyl Benzene	880	1000	70	ND (0.0012)	ND (0.0012)	ND (0.0017)	ND (0.0013)	ND (0.0027)	ND (0.0012)	ND (0.0012)	ND (0.0014)	ND (0.00092)	ND (0.0017)	ND (0.0012)	ND (0.001)
Methyl tert-butyl ether	8500	9800	2	ND (0.0024)	ND (0.0024)	ND (0.0035)	ND (0.0026)	ND (0.0055)	ND (0.0024)	ND (0.0024)	ND (0.0028)	ND (0.0018)	ND (0.0035)	ND (0.0023)	ND (0.002)
Toluene	10000	10000	100	ND (0.0012)	ND (0.0012)	ND (0.0017)	ND (0.0013)	ND (0.0027)	ND (0.0012)	ND (0.0012)	ND (0.0014)	ND (0.00092)	ND (0.0017)	ND (0.0012)	ND (0.001)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0024)	ND (0.0024)	ND (0.0035)	ND (0.0026)	ND (0.0055)	ND (0.0024)	ND (0.0024)	ND (0.0028)	ND (0.0018)	ND (0.0035)	ND (0.0023)	ND (0.002)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0024)	ND (0.0024)	ND (0.0035)	ND (0.0026)	ND (0.0055)	ND (0.0024)	ND (0.0024)	ND (0.0028)	ND (0.0018)	ND (0.0035)	ND (0.0023)	ND (0.002)
Xylenes (total)	7900	9100	1000	ND (0.0024)	ND (0.0024)	ND (0.0035)	ND (0.0026)	ND (0.0055)	ND (0.0024)	ND (0.0024)	ND (0.0028)	ND (0.0018)	ND (0.0035)	ND (0.0023)	ND (0.002)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	ND (0.1)	ND (0.11)	ND (0.12)	ND (0.1)	0.062 J (0.11)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)	0.088 J (0.11)	ND (0.11)	ND (0.11)
Benzo(a)anthracene	130	190000	340	ND (0.1)	ND (0.11)	ND (0.12)	ND (0.1)	0.22 (0.11)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)	0.24 (0.11)	0.035 J (0.11)	ND (0.11)
Benzo(a)pyrene	91	190000	46	ND (0.13)	ND (0.15)	ND (0.16)	ND (0.14)	0.23 (0.15)	ND (0.13)	ND (0.14)	ND (0.14)	ND (0.15)	0.22 (0.14)	0.044 J (0.14)	ND (0.14)
Benzo(b)fluoranthene	76	190000	170	ND (0.1)	ND (0.11)	0.037 J (0.12)	ND (0.1)	0.28 (0.11)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)	0.26 (0.11)	0.061 J (0.11)	ND (0.11)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.13)	ND (0.15)	ND (0.16)	ND (0.14)	0.11 J (0.15)	ND (0.13)	ND (0.14)	ND (0.14)	ND (0.15)	0.14 (0.14)	0.039 J (0.14)	ND (0.14)
Chrysene	760	190000	230	ND (0.1)	ND (0.11)	ND (0.12)	ND (0.1)	0.22 (0.11)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)	0.21 (0.11)	0.044 J (0.11)	ND (0.11)
Fluorene	130000	190000	3800	ND (0.17)	ND (0.19)	ND (0.21)	ND (0.17)	0.026 J (0.19)	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.19)	0.036 J (0.18)	ND (0.18)	ND (0.18)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.17)	ND (0.19)	ND (0.21)	ND (0.17)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.18)
Phenanthrene	190000	190000	10000	ND (0.1)	ND (0.11)	0.032 J (0.12)	ND (0.1)	0.2 (0.11)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)	0.39 (0.11)	0.032 J (0.11)	ND (0.11)
Pyrene	96000	190000	2200	ND (0.1)	ND (0.11)	0.038 J (0.12)	ND (0.1)	0.35 (0.11)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)	0.41 (0.11)	0.054 J (0.11)	ND (0.11)
Metals															
Lead	1000	190000	450	3.54 (2)	4.07 (2.21)	8.11 (2.48)	5 (2.04)	5 (2.17)	3.6 (2)	2.76 (2.02)	2.51 (2.06)	3.72 (2.24)	93.9 (2.1)	38.9 (2.08)	3.02 (2.08)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).
3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-843-02	PB-843-03	PB-843-04	PB-843-05	PB-843-06	PB-843-07	PB-843-08	PB-843-09	PB-843-10	PB-843-11	PB-843-11	PB-843-12
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-843-02-SS01	PB-843-03-SS01	PB-843-04-SS01	PB-843-05-SS01	PB-843-06-SS01	PB-843-07-SS01	PB-843-08-SS01	PB-843-09-SS01	PB-843-10-SS01	PB-843-11-SS01	DUP-40	PB-843-12-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	4.5 - 5.0	2.0 - 2.5	3.0 - 3.5	4.0 - 4.5	3.0 - 3.5	4.5 - 5.0	4.5 - 5.0	4.0 - 4.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/11/2022
Comments	(0-2 ft)	(2-15 ft)	MSCs											Field Duplicate	
Volatile Organic Compounds															
Benzene	280	330	0.5	0.00085 (0.00046)	ND (0.00067)	0.00078 (0.00061)	0.0067 (0.00054)	0.0057 (0.00061)	0.00032 J (0.00048)	ND (0.00055)	0.0018 (0.00063)	0.082 (0.00052)	0.00024 J (0.00063)	ND (0.00066)	0.0017 (0.00051)
Cumene	10000	10000	2500	ND (0.00091)	ND (0.0013)	ND (0.0012)	0.00012 J (0.0011)	0.00071 J (0.0012)	0.00016 J (0.00096)	ND (0.0011)	ND (0.0012)	0.00037 J (0.001)	0.00026 J (0.0013)	ND (0.0013)	0.00045 J (0.001)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00046)	ND (0.00067)	ND (0.00061)	ND (0.00054)	ND (0.00061)	ND (0.00048)	ND (0.00055)	ND (0.00063)	ND (0.00052)	ND (0.00063)	ND (0.00066)	ND (0.00051)
1,2-Dichloroethane	85	98	0.5	ND (0.00091)	ND (0.0013)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.00096)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0013)	ND (0.0013)	ND (0.001)
Ethyl Benzene	880	1000	70	ND (0.00091)	ND (0.0013)	ND (0.0012)	ND (0.0011)	ND (0.0012)	0.00071 J (0.00096)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0013)	ND (0.0013)	ND (0.001)
Methyl tert-butyl ether	8500	9800	2	ND (0.0018)	ND (0.0027)	ND (0.0024)	ND (0.0022)	0.00037 J (0.0024)	0.00047 J (0.0019)	ND (0.0022)	ND (0.0025)	0.0012 J (0.0021)	0.00045 J (0.0025)	ND (0.0026)	0.0009 J (0.002)
Toluene	10000	10000	100	ND (0.00091)	ND (0.0013)	ND (0.0012)	ND (0.0011)	ND (0.0012)	0.002 (0.00096)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0013)	ND (0.0013)	ND (0.001)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0018)	ND (0.0027)	ND (0.0024)	ND (0.0022)	ND (0.0024)	0.0018 J (0.0019)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0025)	ND (0.0026)	ND (0.002)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0018)	ND (0.0027)	ND (0.0024)	ND (0.0022)	ND (0.0024)	0.0011 J (0.0019)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0025)	ND (0.0026)	ND (0.002)
Xylenes (total)	7900	9100	1000	ND (0.0018)	ND (0.0027)	ND (0.0024)	ND (0.0022)	ND (0.0024)	0.0049 J (0.0019)	ND (0.0022)	ND (0.0025)	0.007 J (0.0021)	ND (0.0025)	ND (0.0026)	ND (0.002)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	ND (0.11)	ND (0.1)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.11)
Benzo(a)anthracene	130	190000	340	ND (0.11)	ND (0.1)	ND (0.12)	ND (0.12)	ND (0.11)	0.037 J (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	0.022 J (0.12)	ND (0.11)
Benzo(a)pyrene	91	190000	46	ND (0.15)	ND (0.14)	ND (0.15)	ND (0.16)	ND (0.15)	ND (0.15)	ND (0.14)	ND (0.16)	ND (0.15)	ND (0.15)	ND (0.16)	ND (0.15)
Benzo(b)fluoranthene	76	190000	170	ND (0.11)	ND (0.1)	ND (0.12)	ND (0.12)	ND (0.11)	0.033 J (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.11)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.15)	ND (0.14)	ND (0.15)	ND (0.16)	ND (0.15)	ND (0.15)	ND (0.14)	ND (0.16)	ND (0.15)	ND (0.15)	ND (0.16)	ND (0.15)
Chrysene	760	190000	230	ND (0.11)	ND (0.1)	ND (0.12)	ND (0.12)	ND (0.11)	0.1 J (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.11)
Fluorene	130000	190000	3800	ND (0.19)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.2)	ND (0.18)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.19)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.19)	0.038 J (0.19)	ND (0.18)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.2)	ND (0.18)
Phenanthrene	190000	190000	10000	ND (0.11)	ND (0.1)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	0.026 J (0.12)	ND (0.11)
Pyrene	96000	190000	2200	ND (0.11)	ND (0.1)	ND (0.12)	ND (0.12)	ND (0.11)	0.14 (0.11)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.11)	0.026 J (0.12)	ND (0.11)
Metals															
Lead	1000	190000	450	3.41 (2.18)	3.06 (2.08)	5.63 (2.26)	6.17 (4.48)	6.13 (2.22)	14.2 (2.21)	3.99 (2.03)	18.3 (2.32)	5.3 (2.21)	5.83 (2.25)	18 (4.67)	8.48 (2.15)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).
3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-843-13	PB-843-14	PB-843-15	PB-843-16	PB-843-17	PB-847-01	PB-847-02	PB-847-02	PB-847-03	PB-847-04	PB-847-05	PB-847-06
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-843-13-SS01	PB-843-14-SS01	PB-843-15-SS01	PB-843-16-SS01	PB-843-17-SS01	PB-847-01-SS01	PB-847-02-SS01	DUP-37	PB-847-03-SS01	PB-847-04-SS01	PB-847-05-SS01	PB-847-06-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	3.0 - 3.5	4.0 - 4.5	4.5 - 5.0	3.0 - 3.5	4.5 - 5.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	4.0 - 4.5	3.5 - 4.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022
Comments	(0-2 ft)	(2-15 ft)	MSCs								Field Duplicate				
Volatile Organic Compounds															
Benzene	280	330	0.5	ND (0.00051)	0.00035 J (0.00049)	ND (0.00048)	ND (0.00048)	0.00024 J (0.00057)	ND (0.00043)	ND (0.00046)	ND (0.00044)	ND (0.00045)	ND (0.00044)	ND (0.00043)	ND (0.00043)
Cumene	10000	10000	2500	ND (0.001)	0.00017 J (0.00099)	ND (0.00097)	ND (0.00097)	ND (0.0011)	ND (0.00085)	ND (0.00093)	ND (0.00089)	ND (0.00089)	ND (0.00088)	ND (0.00087)	ND (0.00086)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00051)	ND (0.00049)	ND (0.00048)	ND (0.00048)	ND (0.00057)	ND (0.00043)	ND (0.00046)	ND (0.00044)	ND (0.00045)	ND (0.00044)	ND (0.00043)	ND (0.00043)
1,2-Dichloroethane	85	98	0.5	ND (0.001)	ND (0.00099)	ND (0.00097)	ND (0.00097)	ND (0.0011)	ND (0.00085)	ND (0.00093)	ND (0.00089)	ND (0.00089)	ND (0.00088)	ND (0.00087)	ND (0.00086)
Ethyl Benzene	880	1000	70	ND (0.001)	ND (0.00099)	ND (0.00097)	ND (0.00097)	ND (0.0011)	ND (0.00085)	ND (0.00093)	ND (0.00089)	ND (0.00089)	ND (0.00088)	ND (0.00087)	ND (0.00086)
Methyl tert-butyl ether	8500	9800	2	ND (0.002)	0.0006 J (0.002)	ND (0.0019)	ND (0.0019)	0.00055 J (0.0023)	ND (0.0017)	ND (0.0018)	ND (0.0018)	ND (0.0018)	ND (0.0018)	ND (0.0017)	ND (0.0017)
Toluene	10000	10000	100	ND (0.001)	ND (0.00099)	ND (0.00097)	ND (0.00097)	ND (0.0011)	ND (0.00085)	ND (0.00093)	ND (0.00089)	ND (0.00089)	ND (0.00088)	ND (0.00087)	ND (0.00086)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.002)	ND (0.002)	ND (0.0019)	ND (0.0019)	ND (0.0023)	ND (0.0017)	ND (0.0018)	ND (0.0018)	ND (0.0018)	ND (0.0018)	ND (0.0017)	ND (0.0017)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.002)	ND (0.002)	ND (0.0019)	ND (0.0019)	ND (0.0023)	ND (0.0017)	ND (0.0018)	ND (0.0018)	ND (0.0018)	ND (0.0018)	ND (0.0017)	ND (0.0017)
Xylenes (total)	7900	9100	1000	ND (0.002)	ND (0.002)	ND (0.0019)	ND (0.0019)	ND (0.0023)	ND (0.0017)	ND (0.0018)	ND (0.0018)	ND (0.0018)	ND (0.0018)	ND (0.0017)	ND (0.0017)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	ND (0.11)	ND (0.12)	0.05 J (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.12)
Benzo(a)anthracene	130	190000	340	ND (0.11)	ND (0.12)	0.24 (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.12)
Benzo(a)pyrene	91	190000	46	ND (0.14)	ND (0.15)	0.23 (0.16)	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.16)
Benzo(b)fluoranthene	76	190000	170	ND (0.11)	ND (0.12)	0.27 (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.12)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.14)	ND (0.15)	0.12 J (0.16)	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.16)
Chrysene	760	190000	230	ND (0.11)	ND (0.12)	0.24 (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.12)
Fluorene	130000	190000	3800	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.2)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.2)
Phenanthrene	190000	190000	10000	ND (0.11)	ND (0.12)	0.19 (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.12)
Pyrene	96000	190000	2200	ND (0.11)	ND (0.12)	0.39 (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.12)
Metals															
Lead	1000	190000	450	3.21 (2.08)	11.2 (2.24)	92 (2.26)	48.6 (4.56)	11 (2.38)	6.08 (2.37)	4.67 (2.42)	4.52 (2.34)	4.07 (2.17)	3.69 (2.26)	3.51 (2.23)	4.69 (2.31)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).
3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-847-07	PB-847-08	PB-847-09	PB-847-10	PB-847-11	PB-847-12	PB-847-13	PB-847-14	PB-847-15	PB-847-15	PB-847-15	PB-847-16
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-847-07-SS01	PB-847-08-SS01	PB-847-09-SS01	PB-847-10-SS01	PB-847-11-SS01	PB-847-12-SS01	PB-847-13-SS01	PB-847-14-SS01	PB-847-15-SS01	PB-847-15R-6.0-6.5	PB-847-15R-17.0-17.5	PB-847-16-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	4.0 - 4.5	3.0 - 3.5	4.5 - 5.0	3.0 - 3.5	3.0 - 3.5	4.5 - 5.0	4.0 - 4.5	3.5 - 4.0	4.0 - 4.5	6.0 - 6.5	17.0 - 17.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/8/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022	7/8/2022	1/4/2023	1/4/2023	7/8/2022
Comments	(0-2 ft)	(2-15 ft)	MSCs												
Volatile Organic Compounds															
Benzene	280	330	0.5	0.00029 J (0.00052)	ND (0.00045)	0.00024 J (0.00058)	ND (0.00049)	0.00047 J (0.00049)	ND (0.00043)	0.051 J (0.11)	ND (0.12)	0.063 J (0.12)	ND (0.032)	0.16 (0.026)	ND (0.00047)
Cumene	10000	10000	2500	ND (0.001)	ND (0.0009)	ND (0.0012)	ND (0.00098)	0.00012 J (0.00098)	0.013 (0.00087)	0.94 (0.21)	1.3 (0.25)	1.2 (0.23)	3.2 (0.064)	1.1 (0.051)	ND (0.00094)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00052)	ND (0.00045)	ND (0.00058)	ND (0.00049)	ND (0.00049)	ND (0.00043)	ND (0.11)	ND (0.12)	ND (0.12)	NA	NA	ND (0.00047)
1,2-Dichloroethane	85	98	0.5	ND (0.001)	ND (0.0009)	ND (0.0012)	ND (0.00098)	ND (0.00098)	ND (0.00087)	ND (0.21)	ND (0.25)	ND (0.23)	NA	NA	ND (0.00094)
Ethyl Benzene	880	1000	70	ND (0.001)	ND (0.0009)	ND (0.0012)	ND (0.00098)	ND (0.00098)	0.0028 (0.00087)	0.2 J (0.21)	ND (0.25)	0.24 (0.23)	5.4 (0.064)	0.018 J (0.051)	ND (0.00094)
Methyl tert-butyl ether	8500	9800	2	ND (0.0021)	ND (0.0018)	ND (0.0023)	ND (0.002)	0.0035 (0.002)	ND (0.0017)	ND (0.43)	ND (0.5)	ND (0.46)	ND (0.13)	ND (0.1)	ND (0.0019)
Toluene	10000	10000	100	ND (0.001)	ND (0.0009)	ND (0.0012)	ND (0.00098)	ND (0.00098)	ND (0.00087)	ND (0.21)	ND (0.25)	ND (0.23)	NA	NA	ND (0.00094)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0021)	ND (0.0018)	ND (0.0023)	ND (0.002)	ND (0.002)	0.02 (0.0017)	2.2 (0.43)	ND (0.5)	2.8 (0.46)	5.1 (0.13)	ND (0.1)	ND (0.0019)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0021)	ND (0.0018)	ND (0.0023)	ND (0.002)	ND (0.002)	0.054 (0.0017)	1.4 (0.43)	ND (0.5)	1.8 (0.46)	3.2 (0.13)	0.016 J (0.1)	ND (0.0019)
Xylenes (total)	7900	9100	1000	ND (0.0021)	ND (0.0018)	ND (0.0023)	ND (0.002)	ND (0.002)	0.0009 J (0.0017)	0.23 J (0.43)	ND (0.5)	0.27 J (0.46)	2.53 J (0.13)	ND (0.1)	ND (0.0019)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	1.7 (1.1)	NA	NA	ND (0.12)
Benzo(a)anthracene	130	190000	340	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (1.1)	NA	NA	ND (0.12)
Benzo(a)pyrene	91	190000	46	ND (0.16)	ND (0.16)	ND (0.17)	ND (0.16)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.16)	ND (1.5)	NA	NA	ND (0.16)
Benzo(b)fluoranthene	76	190000	170	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (1.1)	NA	NA	ND (0.12)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.16)	ND (0.16)	ND (0.17)	ND (0.16)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.16)	ND (1.5)	NA	NA	ND (0.16)
Chrysene	760	190000	230	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (1.1)	NA	NA	ND (0.12)
Fluorene	130000	190000	3800	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.2)	ND (0.19)	ND (0.19)	0.12 J (0.19)	ND (0.2)	5.3 (1.9)	NA	NA	ND (0.2)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.2)	ND (0.19)	ND (0.19)	0.13 J (0.19)	0.043 J (0.2)	7 (1.9)	7.5 (0.04)	1.6 (0.038)	ND (0.2)
Phenanthrene	190000	190000	10000	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	0.29 (0.12)	ND (0.12)	12 (1.1)	NA	NA	ND (0.12)
Pyrene	96000	190000	2200	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	0.5 J (1.1)	NA	NA	ND (0.12)
Metals															
Lead	1000	190000	450	5.3 (4.63)	4.46 (2.36)	4.13 (2.5)	5.37 (4.8)	4.97 (4.44)	6.35 (4.54)	3.88 (2.3)	5.24 (4.85)	5.06 (4.52)	6.75 (2.37)	5.9 (2.26)	5.17 (2.4)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.

2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).

3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-847-17	PB-848-01	PB-848-02	PB-848-03	PB-848-04	PB-848-05	PB-848-05	PB-848-06	PB-848-07	PB-848-07	PB-848-08	PB-848-09
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-847-17-SS01	PB-848-01-SS01	PB-848-02-SS01	PB-848-03-SS01	PB-848-04-SS01	PB-848-05-SS01	DUP-39	PB-848-06-SS01	PB-848-07-SS01	TG04-MW-02-7.0-7.5	PB-848-08-SS01	PB-848-09-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	3.5 - 4.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	4.0 - 4.5	3.0 - 3.5	3.0 - 3.5	4.5 - 5.0	4.5 - 5.0	7.0 - 7.5	4.5 - 5.0	4.5 - 5.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/8/2022	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/11/2022	12/19/2022	7/11/2022	7/11/2022
Comments	(0-2 ft)	(2-15 ft)	MSCs							Field Duplicate					
Volatile Organic Compounds															
Benzene	280	330	0.5	0.0042 (0.00053)	0.001 (0.00058)	ND (0.00047)	ND (0.00055)	1.8 (0.13)	ND (0.00056)	ND (0.00049)	ND (0.032)	0.14 (0.034)	0.0023 (0.00056)	0.0003 J (0.00046)	0.00022 J (0.00049)
Cumene	10000	10000	2500	0.027 (0.0011)	0.00014 J (0.0012)	ND (0.00094)	ND (0.0011)	0.46 (0.25)	ND (0.0011)	ND (0.00098)	3 (0.064)	1.1 (0.067)	0.015 (0.0011)	0.0099 (0.00092)	0.0011 (0.00098)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00053)	ND (0.00058)	ND (0.00047)	ND (0.00055)	ND (0.13)	ND (0.00056)	ND (0.00049)	ND (0.032)	ND (0.034)	NA	ND (0.00046)	ND (0.00049)
1,2-Dichloroethane	85	98	0.5	ND (0.0011)	ND (0.0012)	ND (0.00094)	ND (0.0011)	ND (0.25)	ND (0.0011)	ND (0.00098)	ND (0.064)	ND (0.067)	NA	ND (0.00092)	ND (0.00098)
Ethyl Benzene	880	1000	70	0.018 (0.0011)	ND (0.0012)	ND (0.00094)	ND (0.0011)	0.9 (0.25)	ND (0.0011)	ND (0.00098)	1 (0.064)	1.6 (0.067)	0.028 (0.0011)	0.0067 (0.00092)	0.00046 J (0.00098)
Methyl tert-butyl ether	8500	9800	2	ND (0.0021)	ND (0.0023)	ND (0.0019)	ND (0.0022)	ND (0.51)	0.00074 J (0.0022)	0.00057 J (0.002)	ND (0.13)	ND (0.13)	0.00026 J (0.0022)	ND (0.0018)	ND (0.002)
Toluene	10000	10000	100	0.00073 J (0.0011)	ND (0.0012)	ND (0.00094)	ND (0.0011)	ND (0.25)	ND (0.0011)	ND (0.00098)	ND (0.064)	0.087 (0.067)	NA	ND (0.00092)	ND (0.00098)
1,2,4-Trimethylbenzene	4700	5400	300	0.11 (0.0021)	ND (0.0023)	ND (0.0019)	ND (0.0022)	4.3 (0.51)	ND (0.0022)	ND (0.002)	35 (1.3)	2.2 (0.13)	0.0016 J (0.0022)	0.037 (0.0018)	0.0013 J (0.002)
1,3,5-Trimethylbenzene	4700	5400	93	0.0088 (0.0021)	0.00026 J (0.0023)	ND (0.0019)	ND (0.0022)	2.7 (0.51)	ND (0.0022)	ND (0.002)	0.16 (0.13)	1 (0.13)	0.0059 (0.0022)	0.0047 (0.0018)	0.00028 J (0.002)
Xylenes (total)	7900	9100	1000	0.0167 J (0.0021)	0.00155 J (0.0023)	ND (0.0019)	ND (0.0022)	3.82 J (0.51)	ND (0.0022)	ND (0.002)	ND (0.13)	0.562 J (0.13)	0.00268 J (0.0022)	0.00133 J (0.0018)	0.00093 J (0.002)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	0.29 (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	NA	ND (0.12)	ND (0.12)
Benzo(a)anthracene	130	190000	340	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	0.055 J (0.12)	ND (0.12)	0.025 J (0.12)	NA	ND (0.12)	ND (0.12)
Benzo(a)pyrene	91	190000	46	ND (0.16)	ND (0.16)	ND (0.15)	ND (0.15)	ND (0.16)	ND (0.16)	0.048 J (0.16)	ND (0.16)	0.065 J (0.16)	NA	ND (0.16)	ND (0.16)
Benzo(b)fluoranthene	76	190000	170	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	0.053 J (0.12)	ND (0.12)	0.049 J (0.12)	NA	ND (0.12)	ND (0.12)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.16)	ND (0.16)	ND (0.15)	ND (0.15)	ND (0.16)	ND (0.16)	0.026 J (0.16)	ND (0.16)	0.064 J (0.16)	NA	ND (0.16)	ND (0.16)
Chrysene	760	190000	230	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	0.048 J (0.12)	ND (0.12)	0.028 J (0.12)	NA	ND (0.12)	ND (0.12)
Fluorene	130000	190000	3800	ND (0.2)	ND (0.2)	ND (0.19)	ND (0.18)	2.3 (0.2)	0.069 J (0.2)	ND (0.2)	0.14 J (0.2)	0.089 J (0.2)	NA	ND (0.2)	ND (0.2)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.2)	ND (0.2)	ND (0.19)	ND (0.18)	1.4 (0.2)	0.034 J (0.2)	ND (0.2)	1.7 (0.2)	0.26 (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Phenanthrene	190000	190000	10000	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	1.9 (0.12)	0.054 J (0.12)	0.091 J (0.12)	0.15 (0.12)	0.059 J (0.12)	NA	ND (0.12)	0.034 J (0.12)
Pyrene	96000	190000	2200	ND (0.12)	ND (0.12)	0.029 J (0.12)	0.024 J (0.11)	ND (0.12)	ND (0.12)	0.08 J (0.12)	ND (0.12)	ND (0.12)	NA	ND (0.12)	ND (0.12)
Metals															
Lead	1000	190000	450	5.26 (4.7)	6.75 (2.41)	26.2 (4.38)	51.6 (4.24)	716 (2.44)	8.21 (4.59)	18.8 (2.22)	7.2 (2.39)	3200 (4.73)	7.5 (2.25)	246 (4.7)	1140 (2.41)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).
3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-848-10	PB-848-11	PB-848-12	PB-848-13	PB-848-14	PB-848-15	PB-848-16	PB-848-17	PB-848-18	PB-881-01	PB-881-02	PB-881-03
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-848-10-SS01	PB-848-11-SS01	PB-848-12-SS01	PB-848-13-SS01	PB-848-14-SS01	PB-848-15-SS01	PB-848-16-SS01	PB-848-17-SS01	PB-848-18-SS01	PB-881-01-SS01	PB-881-02-SS01	PB-881-03-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	4.5 - 5.0	3.0 - 3.5	4.0 - 4.5	4.5 - 5.0	4.5 - 5.0	4.5 - 5.0	3.0 - 3.5	3.0 - 3.5	4.5 - 5.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/11/2022	7/12/2022	7/12/2022	7/12/2022
Comments	(0-2 ft)	(2-15 ft)	MSCs												
Volatile Organic Compounds															
Benzene	280	330	0.5	0.00052 J (0.00063)	0.87 (0.034)	ND (0.00055)	ND (0.036)	0.00019 J (0.00056)	1.1 (0.028)	ND (0.0006)	ND (0.00077)	0.01 J (0.027)	ND (0.00043)	ND (0.00053)	ND (0.00046)
Cumene	10000	10000	2500	0.0066 (0.0012)	0.29 (0.068)	ND (0.0011)	0.01 J (0.072)	0.00079 J (0.0011)	2.4 (0.055)	ND (0.0012)	ND (0.0015)	0.06 (0.054)	0.0032 (0.00087)	ND (0.001)	ND (0.00093)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00063)	ND (0.034)	ND (0.00055)	ND (0.036)	ND (0.00056)	ND (0.028)	ND (0.0006)	ND (0.00077)	ND (0.027)	ND (0.00043)	ND (0.00053)	ND (0.00046)
1,2-Dichloroethane	85	98	0.5	ND (0.0012)	ND (0.068)	ND (0.0011)	ND (0.072)	ND (0.0011)	ND (0.055)	ND (0.0012)	ND (0.0015)	ND (0.054)	ND (0.00087)	ND (0.001)	ND (0.00093)
Ethyl Benzene	880	1000	70	0.0024 (0.0012)	0.16 (0.068)	ND (0.0011)	0.018 J (0.072)	0.00017 J (0.0011)	16 (0.055)	ND (0.0012)	ND (0.0015)	0.017 J (0.054)	ND (0.00087)	ND (0.001)	ND (0.00093)
Methyl tert-butyl ether	8500	9800	2	ND (0.0025)	ND (0.14)	ND (0.0022)	ND (0.14)	ND (0.0023)	ND (0.11)	ND (0.0024)	ND (0.0031)	ND (0.11)	ND (0.0017)	ND (0.0021)	ND (0.0019)
Toluene	10000	10000	100	ND (0.0012)	0.12 (0.068)	ND (0.0011)	0.039 J (0.072)	ND (0.0011)	0.078 (0.055)	ND (0.0012)	ND (0.0015)	ND (0.054)	ND (0.00087)	ND (0.001)	ND (0.00093)
1,2,4-Trimethylbenzene	4700	5400	300	0.00081 J (0.0025)	0.12 J (0.14)	ND (0.0022)	ND (0.14)	ND (0.0023)	7.7 (0.11)	ND (0.0024)	ND (0.0031)	0.058 J (0.11)	ND (0.13)	ND (0.0021)	ND (0.0019)
1,3,5-Trimethylbenzene	4700	5400	93	0.00047 J (0.0025)	0.076 J (0.14)	ND (0.0022)	ND (0.14)	ND (0.0023)	4 (0.11)	ND (0.0024)	ND (0.0031)	0.011 J (0.11)	0.091 (0.0017)	ND (0.0021)	ND (0.0019)
Xylenes (total)	7900	9100	1000	ND (0.0025)	0.394 J (0.14)	ND (0.0022)	ND (0.14)	ND (0.0023)	38.038 J (2.2)	ND (0.0024)	ND (0.0031)	0.083 J (0.11)	0.055 J (0.0017)	ND (0.0021)	ND (0.0019)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	ND (0.14)	0.081 J (0.11)	0.19 (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	0.09 J (0.12)	ND (0.12)	ND (0.52)	ND (0.1)	0.097 J (0.1)
Benzo(a)anthracene	130	190000	340	ND (0.14)	0.029 J (0.11)	0.33 (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	4.5 (0.12)	ND (0.12)	ND (0.52)	ND (0.1)	0.04 J (0.1)
Benzo(a)pyrene	91	190000	46	ND (0.18)	ND (0.15)	0.3 (0.16)	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.16)	7.2 (0.16)	ND (0.16)	ND (0.7)	ND (0.14)	ND (0.14)
Benzo(b)fluoranthene	76	190000	170	ND (0.14)	0.037 J (0.11)	0.36 (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	4.4 (0.12)	ND (0.12)	ND (0.52)	ND (0.1)	ND (0.1)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.18)	0.039 J (0.15)	0.11 J (0.16)	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.16)	5.2 (0.16)	ND (0.16)	ND (0.7)	ND (0.14)	ND (0.14)
Chrysene	760	190000	230	ND (0.14)	0.034 J (0.11)	0.3 (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	4.4 (0.12)	ND (0.12)	0.22 J (0.52)	ND (0.1)	0.2 (0.1)
Fluorene	130000	190000	3800	ND (0.23)	0.25 (0.19)	0.13 J (0.21)	ND (0.2)	ND (0.21)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	0.19 J (0.88)	ND (0.17)	0.51 (0.17)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.23)	ND (0.19)	0.043 J (0.21)	ND (0.2)	ND (0.21)	ND (0.2)	ND (0.2)	0.026 J (0.2)	ND (0.2)	0.26 J (0.88)	ND (0.17)	1.2 (0.17)
Phenanthrene	190000	190000	10000	ND (0.14)	0.35 (0.11)	0.68 (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	0.34 (0.12)	ND (0.12)	0.16 J (0.52)	ND (0.1)	1 (0.1)
Pyrene	96000	190000	2200	ND (0.14)	0.058 J (0.11)	0.51 (0.12)	0.022 J (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	0.79 (0.12)	ND (0.12)	0.15 J (0.52)	ND (0.1)	0.15 (0.1)
Metals															
Lead	1000	190000	450	721 (5.48)	15 (2.24)	282 (2.36)	28.5 (2.46)	15.7 (2.42)	9.28 (2.29)	6.41 (2.32)	1840 (2.29)	60.7 (11.4)	1.62 J (2)	1.49 J (2.04)	1.78 J (4.15)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).
3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-881-04	PB-881-05	PB-881-06	PB-881-07	PB-881-07	PB-881-08	PB-881-09	PB-881-10	PB-881-11	PB-881-12	PB-881-13	PB-881-14
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-881-04-SS01	PB-881-05-SS01	PB-881-06-SS01	PB-881-07-SS01	DUP-41	PB-881-08-SS01	PB-881-09-SS01	PB-881-10-SS01	PB-881-11-SS01	PB-881-12-SS01	PB-881-13-SS01	PB-881-14-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	2.0 - 2.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	4.0 - 4.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/12/2022
Comments	(0-2 ft)	(2-15 ft)	MSCs					Field Duplicate							
Volatile Organic Compounds															
Benzene	280	330	0.5	ND (0.00051)	ND (0.00049)	ND (0.00056)	ND (0.021)	ND (0.032)	ND (0.00058)	ND (0.00058)	ND (0.052)	ND (0.00053)	ND (0.00051)	ND (0.00049)	ND (0.00045)
Cumene	10000	10000	2500	ND (0.001)	ND (0.00098)	ND (0.0011)	0.0089 J (0.042)	0.012 J (0.065)	ND (0.0012)	ND (0.0012)	0.26 (0.1)	ND (0.0011)	ND (0.001)	ND (0.00099)	ND (0.0009)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00051)	ND (0.00049)	ND (0.00056)	ND (0.021)	ND (0.032)	ND (0.00058)	ND (0.00058)	ND (0.052)	ND (0.00053)	ND (0.00051)	ND (0.00049)	ND (0.00045)
1,2-Dichloroethane	85	98	0.5	ND (0.001)	ND (0.00098)	ND (0.0011)	ND (0.042)	ND (0.065)	ND (0.0012)	ND (0.0012)	ND (0.1)	ND (0.0011)	ND (0.001)	ND (0.00099)	ND (0.0009)
Ethyl Benzene	880	1000	70	ND (0.001)	ND (0.00098)	ND (0.0011)	ND (0.042)	ND (0.065)	ND (0.0012)	ND (0.0012)	0.067 J (0.1)	ND (0.0011)	ND (0.001)	ND (0.00099)	ND (0.0009)
Methyl tert-butyl ether	8500	9800	2	ND (0.002)	0.0012 J (0.002)	ND (0.0022)	ND (0.084)	ND (0.13)	ND (0.0023)	ND (0.0023)	ND (0.21)	ND (0.0021)	ND (0.002)	ND (0.002)	ND (0.0018)
Toluene	10000	10000	100	ND (0.001)	ND (0.00098)	ND (0.0011)	ND (0.042)	ND (0.065)	ND (0.0012)	ND (0.0012)	ND (0.1)	ND (0.0011)	ND (0.001)	ND (0.00099)	ND (0.0009)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.002)	ND (0.002)	ND (0.0022)	0.47 (0.084)	1 (0.13)	ND (0.0023)	ND (0.0023)	9.4 (0.21)	ND (0.0021)	ND (0.002)	ND (0.002)	ND (0.0018)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.002)	ND (0.002)	ND (0.0022)	0.22 (0.084)	0.45 (0.13)	ND (0.0023)	ND (0.0023)	3.6 (0.21)	ND (0.0021)	ND (0.002)	ND (0.002)	ND (0.0018)
Xylenes (total)	7900	9100	1000	ND (0.002)	ND (0.002)	ND (0.0022)	0.059 J (0.084)	0.0695 J (0.13)	ND (0.0023)	ND (0.0023)	0.456 J (0.21)	ND (0.0021)	ND (0.002)	ND (0.002)	ND (0.0018)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	0.047 J (0.11)	ND (0.11)	ND (0.1)	0.04 J (0.1)	0.063 J (0.11)	ND (0.12)	ND (0.12)	ND (0.51)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Benzo(a)anthracene	130	190000	340	0.23 (0.11)	ND (0.11)	ND (0.1)	0.022 J (0.1)	0.031 J (0.11)	ND (0.12)	ND (0.12)	0.17 J (0.51)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Benzo(a)pyrene	91	190000	46	0.25 (0.15)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.16)	ND (0.16)	ND (0.69)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)
Benzo(b)fluoranthene	76	190000	170	0.29 (0.11)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.51)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Benzo(g,h,i)perylene	190000	190000	180	0.14 J (0.15)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.16)	ND (0.16)	ND (0.69)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)
Chrysene	760	190000	230	0.22 (0.11)	ND (0.11)	ND (0.1)	0.087 J (0.1)	0.15 (0.11)	ND (0.12)	ND (0.12)	0.34 J (0.51)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Fluorene	130000	190000	3800	0.018 J (0.19)	ND (0.19)	ND (0.17)	0.23 (0.17)	0.41 (0.18)	ND (0.2)	ND (0.2)	1.1 (0.86)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	0.048 J (0.19)	ND (0.19)	ND (0.17)	0.048 J (0.17)	0.6 (0.18)	ND (0.2)	ND (0.2)	4.4 (0.86)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)
Phenanthrene	190000	190000	10000	0.21 (0.11)	ND (0.11)	ND (0.1)	0.48 (0.1)	0.88 (0.11)	ND (0.12)	ND (0.12)	1.9 (0.51)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Pyrene	96000	190000	2200	0.28 (0.11)	ND (0.11)	ND (0.1)	0.064 J (0.1)	0.1 J (0.11)	ND (0.12)	ND (0.12)	0.23 J (0.51)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Metals															
Lead	1000	190000	450	89.2 (22.8)	7.7 (2.2)	1.45 J (2.02)	1.48 J (1.98)	1.48 J (2.05)	6.67 (2.43)	6.12 (2.29)	1.22 J (2.04)	2.35 J (4.14)	1.4 J (2.06)	2.2 J (4.2)	2.02 J (3.98)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).
3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-881-15	PB-881-16	PB-881-17	PB-881-18	PB-882-01	PB-882-02	PB-882-03	PB-882-04	PB-882-05	PB-882-06	PB-882-07	PB-882-08
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-881-15-SS01	PB-881-16-SS01	PB-881-17-SS01	PB-881-18-SS01	PB-882-01-SS01	PB-882-02-SS01	PB-882-03-SS01	PB-882-04-SS01	PB-882-05-SS01	PB-882-06-SS01	PB-882-07-SS01	PB-882-08-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	4.5 - 5.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	4.5 - 5.0
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/12/2022	7/12/2022	7/12/2022	7/12/2022	7/29/2021	7/29/2021	7/13/2022	7/13/2022	7/13/2022	7/13/2022	7/13/2022	7/13/2022
Comments	(0-2 ft)	(2-15 ft)	MSCs												
Volatile Organic Compounds															
Benzene	280	330	0.5	ND (0.00048)	ND (0.00051)	ND (0.0005)	ND (0.00049)	ND (0.00052)	ND (0.00047)	ND (0.00045)	0.00058 (0.00048)	ND (0.0005)	ND (0.00045)	ND (0.00046)	ND (0.00045)
Cumene	10000	10000	2500	ND (0.00096)	0.00017 J (0.001)	ND (0.001)	ND (0.00098)	ND (0.001)	ND (0.00095)	ND (0.0009)	ND (0.00095)	ND (0.001)	ND (0.00091)	ND (0.00091)	0.039 (0.00089)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00048)	ND (0.00051)	ND (0.0005)	ND (0.00049)	ND (0.00052)	ND (0.00047)	ND (0.00045)	ND (0.00048)	ND (0.0005)	ND (0.00045)	ND (0.00046)	ND (0.00045)
1,2-Dichloroethane	85	98	0.5	ND (0.00096)	ND (0.001)	ND (0.001)	ND (0.00098)	ND (0.001)	ND (0.00095)	ND (0.0009)	ND (0.00095)	ND (0.001)	ND (0.00091)	ND (0.00091)	ND (0.00089)
Ethyl Benzene	880	1000	70	ND (0.00096)	ND (0.001)	ND (0.001)	ND (0.00098)	ND (0.001)	ND (0.00095)	ND (0.0009)	0.00014 J (0.00095)	ND (0.001)	ND (0.00091)	ND (0.00091)	0.017 (0.00089)
Methyl tert-butyl ether	8500	9800	2	0.00054 J (0.0019)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.0021)	ND (0.0019)	ND (0.0018)	ND (0.0019)	ND (0.002)	ND (0.0018)	ND (0.0018)	ND (0.0018)
Toluene	10000	10000	100	ND (0.00096)	ND (0.001)	ND (0.001)	ND (0.00098)	ND (0.001)	ND (0.00095)	ND (0.0009)	ND (0.00095)	ND (0.001)	ND (0.00091)	ND (0.00091)	ND (0.00089)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.0021)	ND (0.0019)	ND (0.0018)	0.00096 J (0.0019)	ND (0.002)	ND (0.0018)	ND (0.0018)	0.041 (0.0018)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.0021)	ND (0.0019)	ND (0.0018)	0.00038 J (0.0019)	ND (0.002)	ND (0.0018)	ND (0.0018)	0.016 (0.0018)
Xylenes (total)	7900	9100	1000	ND (0.0019)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.0021)	ND (0.0019)	ND (0.0018)	0.001075 J (0.0019)	ND (0.002)	ND (0.0018)	ND (0.0018)	0.004945 J (0.0018)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.0078)	ND (0.0072)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	0.041 J (0.12)
Benzo(a)anthracene	130	190000	340	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.1)	0.0014 J (0.0078)	0.00094 J (0.0072)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)
Benzo(a)pyrene	91	190000	46	ND (0.16)	ND (0.16)	ND (0.14)	ND (0.14)	ND (0.0078)	ND (0.0072)	ND (0.16)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.15)
Benzo(b)fluoranthene	76	190000	170	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.1)	0.00078 J (0.0078)	ND (0.0072)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.16)	ND (0.16)	ND (0.14)	ND (0.14)	ND (0.0078)	ND (0.0072)	ND (0.16)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.15)
Chrysene	760	190000	230	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.1)	0.00066 J (0.0078)	ND (0.0072)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)
Fluorene	130000	190000	3800	ND (0.2)	ND (0.2)	ND (0.18)	ND (0.17)	ND (0.0078)	ND (0.0072)	ND (0.2)	ND (0.19)	ND (0.18)	ND (0.19)	ND (0.19)	0.4 (0.19)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.2)	ND (0.2)	ND (0.18)	ND (0.17)	ND (0.0078)	ND (0.0072)	ND (0.2)	ND (0.19)	ND (0.18)	ND (0.19)	ND (0.19)	1.6 (0.19)
Phenanthrene	190000	190000	10000	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.1)	0.00093 J (0.0078)	ND (0.0072)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	0.78 (0.12)
Pyrene	96000	190000	2200	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.1)	0.0014 J (0.0078)	ND (0.0072)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)
Metals															
Lead	1000	190000	450	5.85 (2.36)	10.7 (4.8)	1.4 J (2.05)	1.46 J (2.05)	4.2 (2.4)	5.3 (2.3)	9.65 (4.74)	6.1 (4.59)	5.09 (4.5)	5.96 (4.56)	5.62 (4.66)	3.78 J (4.65)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.

2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).

3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-882-09	PB-882-10	PB-882-11	PB-882-12	PB-882-13	PB-882-14	PB-882-15	PB-882-16	PB-882-17	PB-882-18	PB-882-19	PB-882-20
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-882-09-SS01	PB-882-10-SS01	PB-882-11-SS01	PB-882-12-SS01	PB-882-13-SS01	PB-882-14-SS01	PB-882-15-SS01	PB-882-16-SS01	PB-882-17-SS01	PB-882-18-SS01	PB-882-19-SS01	PB-882-20-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	3.5 - 4.0	4.0 - 4.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/13/2022	7/30/2021	7/13/2022	7/13/2022	7/13/2022	7/30/2021	7/30/2021	7/30/2021	7/30/2021	7/30/2021	7/30/2021	7/30/2021
Comments	(0-2 ft)	(2-15 ft)	MSCs												
Volatile Organic Compounds															
Benzene	280	330	0.5	ND (0.00054)	ND (0.095)	0.00032 J (0.00043)	0.00037 J (0.00043)	ND (0.00046)	ND (0.0005)	ND (0.0005)	ND (0.05)	ND (0.00054)	ND (0.00054)	ND (0.00055)	ND (0.00051)
Cumene	10000	10000	2500	0.042 (0.0011)	1.2 (0.19)	0.0001 J (0.00087)	ND (0.00085)	ND (0.00092)	0.0031 (0.001)	ND (0.001)	6.4 (0.1)	ND (0.0011)	ND (0.0011)	ND (0.0011)	ND (0.001)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00054)	ND (0.095)	ND (0.00043)	ND (0.00043)	ND (0.00046)	ND (0.0005)	ND (0.0005)	ND (0.05)	ND (0.00054)	ND (0.00054)	ND (0.00055)	ND (0.00051)
1,2-Dichloroethane	85	98	0.5	ND (0.0011)	ND (0.19)	ND (0.00087)	ND (0.00085)	ND (0.00092)	ND (0.001)	ND (0.001)	ND (0.1)	ND (0.0011)	ND (0.0011)	ND (0.0011)	ND (0.001)
Ethyl Benzene	880	1000	70	ND (0.0011)	ND (0.19)	ND (0.00087)	ND (0.00085)	ND (0.00092)	ND (0.001)	ND (0.001)	17 (0.1)	ND (0.0011)	ND (0.0011)	ND (0.0011)	ND (0.001)
Methyl tert-butyl ether	8500	9800	2	ND (0.0022)	ND (0.38)	0.0016 J (0.0017)	ND (0.0017)	ND (0.0018)	ND (0.002)	ND (0.002)	ND (0.2)	ND (0.0022)	ND (0.0022)	ND (0.0022)	ND (0.002)
Toluene	10000	10000	100	0.00079 J (0.0011)	ND (0.19)	ND (0.00087)	ND (0.00085)	ND (0.00092)	ND (0.001)	ND (0.001)	ND (0.1)	ND (0.0011)	ND (0.0011)	ND (0.0011)	ND (0.001)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0022)	ND (0.38)	ND (0.0017)	ND (0.0017)	ND (0.0018)	0.0077 (0.002)	ND (0.002)	64 (1)	ND (0.0022)	ND (0.0022)	ND (0.0022)	ND (0.002)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0022)	ND (0.38)	ND (0.0017)	ND (0.0017)	ND (0.0018)	0.005 (0.002)	ND (0.002)	18 (0.2)	ND (0.0022)	ND (0.0022)	ND (0.0022)	ND (0.002)
Xylenes (total)	7900	9100	1000	0.0025 J (0.0022)	ND (0.38)	ND (0.0017)	ND (0.0017)	ND (0.0018)	ND (0.002)	ND (0.002)	39.2 J (0.2)	ND (0.0022)	ND (0.0022)	ND (0.0022)	ND (0.002)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	0.076 J (0.12)	0.068 (0.036)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.016)	0.024 (0.008)	ND (0.077)	ND (0.014)	0.00075 J (0.0079)	ND (0.0082)	ND (0.016)
Benzo(a)anthracene	130	190000	340	0.024 J (0.12)	0.022 J (0.036)	ND (0.12)	ND (0.12)	ND (0.11)	0.035 (0.016)	0.03 (0.008)	0.07 J (0.077)	0.0069 J (0.014)	ND (0.0079)	ND (0.0082)	0.076 (0.016)
Benzo(a)pyrene	91	190000	46	ND (0.16)	0.014 J (0.036)	ND (0.15)	ND (0.15)	ND (0.15)	0.018 (0.016)	0.019 (0.008)	0.036 J (0.077)	0.002 J (0.014)	ND (0.0079)	ND (0.0082)	0.04 (0.016)
Benzo(b)fluoranthene	76	190000	170	ND (0.12)	0.028 J (0.036)	ND (0.12)	ND (0.12)	ND (0.11)	0.02 (0.016)	0.024 (0.008)	0.047 J (0.077)	0.0048 J (0.014)	ND (0.0079)	ND (0.0082)	0.074 (0.016)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.16)	0.018 J (0.036)	ND (0.15)	ND (0.15)	ND (0.15)	0.0097 J (0.016)	0.0076 J (0.008)	0.035 J (0.077)	0.002 J (0.014)	ND (0.0079)	ND (0.0082)	0.038 (0.016)
Chrysene	760	190000	230	0.094 J (0.12)	0.27 (0.036)	ND (0.12)	ND (0.12)	ND (0.11)	0.16 (0.016)	0.023 (0.008)	0.44 (0.077)	0.028 (0.014)	ND (0.0079)	ND (0.0082)	0.42 (0.016)
Fluorene	130000	190000	3800	0.99 (0.2)	0.57 (0.036)	ND (0.19)	ND (0.19)	ND (0.19)	0.29 (0.016)	0.015 (0.008)	0.78 (0.077)	0.088 (0.014)	ND (0.0079)	ND (0.0082)	0.46 (0.016)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	0.06 J (0.2)	0.16 (0.036)	ND (0.19)	ND (0.19)	ND (0.19)	0.13 (0.016)	0.0094 (0.008)	4.2 (0.077)	0.0096 J (0.014)	ND (0.0079)	ND (0.0082)	0.062 (0.016)
Phenanthrene	190000	190000	10000	1.7 (0.12)	1.4 (0.036)	ND (0.12)	ND (0.12)	ND (0.11)	0.84 (0.016)	0.079 (0.008)	2.3 (0.077)	0.11 (0.014)	0.0041 J (0.0079)	0.0014 J (0.0082)	1.2 (0.016)
Pyrene	96000	190000	2200	0.062 J (0.12)	0.083 (0.036)	ND (0.12)	ND (0.12)	ND (0.11)	0.05 (0.016)	0.047 (0.008)	0.16 (0.077)	0.0089 J (0.014)	0.002 J (0.0079)	ND (0.0082)	0.14 (0.016)
Metals															
Lead	1000	190000	450	4.45 J (4.8)	ND (12)	5.69 (4.61)	7.37 (4.65)	5.83 (4.54)	7 (2.5)	19.4 (2.5)	11.3 (2.3)	3.9 (2.3)	11.3 (2.4)	10 (2.6)	73.6 (2.5)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.

2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).

3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

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J - Estimated Concentration

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Location	Non-Residential	Non-Residential	Non-Residential	PB-883-01	PB-883-02	PB-883-03	PB-883-04	PB-883-05	PB-883-06	PB-883-07	PB-883-08	PB-883-09	PB-883-10	PB-883-11	PB-883-12
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-883-01-SS01	PB-883-02-SS01	PB-883-03-SS01	PB-883-04-SS01	PB-883-05-SS01	PB-883-06-SS01	PB-883-07-SS01	PB-883-08-SS01	PB-883-09-SS01	PB-883-10-SS01	PB-883-11-SS01	PB-883-12-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	4.0 - 4.5	3.0 - 3.5	4.0 - 4.5	3.0 - 3.5	3.0 - 3.5	4.0 - 4.5	3.0 - 3.5	3.5 - 4.0	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/14/2022	7/14/2022	7/14/2022	7/14/2022	7/14/2022	7/14/2022	7/14/2022	12/8/2021	12/8/2021	12/8/2021	12/8/2021	12/8/2021
Comments	(0-2 ft)	(2-15 ft)	MSCs												
Volatile Organic Compounds															
Benzene	280	330	0.5	0.00026 J (0.00052)	ND (0.00051)	0.00041 (0.00041)	ND (0.00049)	0.0003 J (0.00045)	ND (0.00053)	0.00026 J (0.00056)	ND (0.00054)	ND (0.0005)	ND (0.00044)	ND (0.00048)	ND (0.00057)
Cumene	10000	10000	2500	0.00018 J (0.001)	ND (0.001)	ND (0.00082)	ND (0.00098)	0.0002 J (0.00091)	ND (0.001)	0.00021 J (0.0011)	ND (0.0011)	ND (0.001)	ND (0.00089)	ND (0.00095)	ND (0.0011)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00052)	ND (0.00051)	ND (0.00041)	ND (0.00049)	ND (0.00045)	ND (0.00053)	ND (0.00056)	ND (0.00054)	ND (0.0005)	ND (0.00044)	ND (0.00048)	ND (0.00057)
1,2-Dichloroethane	85	98	0.5	ND (0.001)	ND (0.001)	ND (0.00082)	ND (0.00098)	ND (0.00091)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.00089)	ND (0.00095)	ND (0.0011)
Ethyl Benzene	880	1000	70	ND (0.001)	ND (0.001)	ND (0.00082)	ND (0.00098)	ND (0.00091)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.00089)	ND (0.00095)	ND (0.0011)
Methyl tert-butyl ether	8500	9800	2	0.00032 J (0.0021)	0.0018 J (0.002)	0.002 (0.0016)	ND (0.002)	0.0042 (0.0018)	0.00048 J (0.0021)	0.0016 J (0.0023)	ND (0.0022)	ND (0.002)	ND (0.0018)	ND (0.0019)	ND (0.0023)
Toluene	10000	10000	100	ND (0.001)	ND (0.001)	ND (0.00082)	ND (0.00098)	ND (0.00091)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.00089)	ND (0.00095)	ND (0.0011)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0021)	ND (0.002)	ND (0.0016)	ND (0.002)	0.00034 J (0.0018)	ND (0.0021)	0.00041 J (0.0023)	ND (0.0022)	ND (0.002)	ND (0.0018)	ND (0.0019)	ND (0.0023)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0021)	ND (0.002)	ND (0.0016)	ND (0.002)	0.00084 J (0.0018)	ND (0.0021)	0.00025 J (0.0023)	ND (0.0022)	ND (0.002)	ND (0.0018)	ND (0.0019)	ND (0.0023)
Xylenes (total)	7900	9100	1000	ND (0.0021)	ND (0.002)	ND (0.0016)	ND (0.002)	ND (0.0018)	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.002)	ND (0.0018)	ND (0.0019)	ND (0.0023)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.11)	ND (0.12)	ND (0.12)
Benzo(a)anthracene	130	190000	340	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.11)	ND (0.12)	ND (0.12)
Benzo(a)pyrene	91	190000	46	ND (0.16)	ND (0.16)	ND (0.15)	ND (0.16)	ND (0.15)	ND (0.15)	ND (0.16)	ND (0.16)	ND (0.14)	ND (0.15)	ND (0.16)	ND (0.16)
Benzo(b)fluoranthene	76	190000	170	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.11)	ND (0.12)	ND (0.12)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.16)	ND (0.16)	ND (0.15)	ND (0.16)	ND (0.15)	ND (0.15)	ND (0.16)	ND (0.16)	ND (0.14)	ND (0.15)	ND (0.16)	ND (0.16)
Chrysene	760	190000	230	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.11)	ND (0.12)	ND (0.12)
Fluorene	130000	190000	3800	ND (0.2)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.2)	ND (0.2)	ND (0.17)	ND (0.18)	ND (0.19)	ND (0.2)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.2)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.2)	ND (0.2)	ND (0.17)	ND (0.18)	ND (0.19)	ND (0.2)
Phenanthrene	190000	190000	10000	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.11)	ND (0.12)	0.028 J (0.12)
Pyrene	96000	190000	2200	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.11)	ND (0.12)	0.021 J (0.12)
Metals															
Lead	1000	190000	450	7.61 J (11.4)	6.88 (2.35)	5.82 (4.41)	6.16 (4.5)	6.72 (2.24)	6.14 (2.28)	13.9 (2.29)	12.8 (2.48)	2.18 (2.03)	4.67 (2.14)	4.25 (2.32)	11 (2.27)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).
3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-883-13	PB-883-14	PB-883-15	PB-883-16	PB-883-17	PB-883-18	PB-883-19	PB-883-20	PB-883-21	PB-883-22	PB-883-23	PB-883-24
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-883-13-SS01	PB-883-14-SS01	PB-883-15-SS01	PB-883-16-SS01	PB-883-17-SS01	PB-883-18-SS01	PB-883-19-SS01	PB-883-20-SS01	PB-883-21-SS01	PB-883-22-SS01	PB-883-23-SS01	PB-883-24-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	4.5 - 5.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	4.5 - 5.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	4.5 - 5.0	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	12/8/2021	12/8/2021	7/14/2022	12/8/2021	12/8/2021	12/8/2021	12/8/2021	7/14/2022	7/14/2022	12/8/2021	12/8/2021	12/8/2021
Comments	(0-2 ft)	(2-15 ft)	MSCs												
Volatile Organic Compounds															
Benzene	280	330	0.5	ND (0.00048)	ND (0.00062)	0.00025 J (0.00048)	ND (0.00056)	ND (0.00064)	ND (0.032)	ND (0.0005)	0.00045 J (0.00048)	ND (0.00046)	ND (0.00052)	ND (0.00074)	ND (0.00051)
Cumene	10000	10000	2500	ND (0.00096)	ND (0.0012)	ND (0.00095)	0.00019 J (0.0011)	ND (0.0013)	0.82 (0.064)	ND (0.001)	0.00029 J (0.00097)	0.00042 J (0.00091)	0.00024 J (0.001)	ND (0.0015)	ND (0.001)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00048)	ND (0.00062)	ND (0.00048)	ND (0.00056)	ND (0.00064)	ND (0.032)	ND (0.0005)	ND (0.00048)	ND (0.00046)	ND (0.00052)	ND (0.00074)	ND (0.00051)
1,2-Dichloroethane	85	98	0.5	ND (0.00096)	ND (0.0012)	ND (0.00095)	ND (0.0011)	ND (0.0013)	ND (0.064)	ND (0.001)	ND (0.00097)	ND (0.00091)	ND (0.001)	ND (0.0015)	ND (0.001)
Ethyl Benzene	880	1000	70	ND (0.00096)	ND (0.0012)	ND (0.00095)	ND (0.0011)	ND (0.0013)	ND (0.064)	ND (0.001)	ND (0.00097)	0.00034 J (0.00091)	ND (0.001)	ND (0.0015)	ND (0.001)
Methyl tert-butyl ether	8500	9800	2	ND (0.0019)	ND (0.0025)	0.0018 J (0.0019)	ND (0.0022)	ND (0.0026)	ND (0.13)	ND (0.002)	0.0051 (0.0019)	ND (0.0018)	ND (0.0021)	ND (0.003)	ND (0.002)
Toluene	10000	10000	100	ND (0.00096)	ND (0.0012)	ND (0.00095)	ND (0.0011)	ND (0.0013)	ND (0.064)	ND (0.001)	ND (0.00097)	ND (0.00091)	ND (0.001)	ND (0.0015)	ND (0.001)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0019)	ND (0.0025)	ND (0.0019)	ND (0.0022)	ND (0.0026)	0.04 J (0.13)	ND (0.002)	0.00089 J (0.0019)	0.0097 (0.0018)	ND (0.0021)	ND (0.003)	ND (0.002)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0019)	ND (0.0025)	ND (0.0019)	ND (0.0022)	ND (0.0026)	ND (0.13)	ND (0.002)	0.00048 J (0.0019)	0.0032 (0.0018)	ND (0.0021)	ND (0.003)	ND (0.002)
Xylenes (total)	7900	9100	1000	ND (0.0019)	ND (0.0025)	0.00125 J (0.0019)	ND (0.0022)	ND (0.0026)	0.109 J (0.13)	ND (0.002)	ND (0.0019)	0.0023 J (0.0018)	ND (0.0021)	ND (0.003)	ND (0.002)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.59)	ND (0.54)	ND (0.54)	ND (0.1)	ND (0.12)	0.74 (0.11)	ND (0.12)	ND (0.12)	ND (0.12)
Benzo(a)anthracene	130	190000	340	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.59)	0.13 J (0.54)	ND (0.54)	ND (0.1)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)
Benzo(a)pyrene	91	190000	46	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.79)	ND (0.72)	ND (0.72)	ND (0.14)	ND (0.16)	ND (0.15)	ND (0.15)	ND (0.16)	ND (0.16)
Benzo(b)fluoranthene	76	190000	170	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.59)	ND (0.54)	ND (0.54)	ND (0.1)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.79)	ND (0.72)	ND (0.72)	ND (0.14)	ND (0.16)	ND (0.15)	ND (0.15)	ND (0.16)	ND (0.16)
Chrysene	760	190000	230	ND (0.12)	ND (0.12)	ND (0.12)	0.43 J (0.59)	0.36 J (0.54)	0.37 J (0.54)	0.027 J (0.1)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	ND (0.12)
Fluorene	130000	190000	3800	ND (0.2)	ND (0.21)	ND (0.2)	ND (0.99)	0.29 J (0.9)	0.25 J (0.91)	ND (0.18)	ND (0.2)	1.2 (0.18)	ND (0.19)	ND (0.2)	ND (0.2)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.2)	ND (0.21)	ND (0.2)	ND (0.99)	ND (0.9)	ND (0.91)	ND (0.18)	ND (0.2)	3 (0.18)	ND (0.19)	ND (0.2)	ND (0.2)
Phenanthrene	190000	190000	10000	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.59)	0.43 J (0.54)	0.52 J (0.54)	ND (0.1)	ND (0.12)	3.7 (0.11)	ND (0.12)	ND (0.12)	ND (0.12)
Pyrene	96000	190000	2200	ND (0.12)	ND (0.12)	ND (0.12)	0.36 J (0.59)	0.2 J (0.54)	0.19 J (0.54)	ND (0.1)	ND (0.12)	0.23 (0.11)	ND (0.12)	ND (0.12)	ND (0.12)
Metals															
Lead	1000	190000	450	6.72 (2.44)	5.14 (2.35)	8.06 (2.27)	8.62 (2.28)	7.06 (4.2)	6.49 (4.24)	7.75 (4.24)	7.73 (2.28)	12.6 (10.6)	4.03 (2.25)	4.64 (2.26)	4.46 (2.27)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).
3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-884-01	PB-884-02	PB-884-03	PB-884-04	PB-884-05	PB-884-06	PB-884-07	PB-884-08	PB-884-09	PB-884-10	PB-884-11	PB-884-12
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-884-01-SS01	PB-884-02-SS01	PB-884-03-SS01	PB-884-04-SS01	PB-884-05-SS01	PB-884-06-SS01	PB-884-07-SS01	PB-884-08-SS01	PB-884-09-SS01	PB-884-10-SS01	PB-884-11-SS01	PB-884-12-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.5 - 4.0	3.0 - 3.5	4.5 - 5.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	12/3/2021	12/3/2021	12/3/2021	12/3/2021	12/6/2021	12/6/2021	12/6/2021	7/14/2022	7/14/2022	12/6/2021	12/3/2021	12/3/2021
Comments	(0-2 ft)	(2-15 ft)	MSCs												
Volatile Organic Compounds															
Benzene	280	330	0.5	0.0003 J (0.00046)	ND (0.00049)	ND (0.00053)	ND (0.00052)	ND (0.0008)	0.0003 J (0.00045)	ND (0.00066)	0.15 (0.033)	2 (0.034)	ND (0.00053)	ND (0.00051)	ND (0.00059)
Cumene	10000	10000	2500	0.00072 J (0.00092)	ND (0.00098)	ND (0.001)	0.078 (0.001)	ND (0.0016)	0.00039 J (0.0009)	ND (0.0013)	0.08 (0.065)	2.8 (0.068)	ND (0.0011)	ND (0.001)	ND (0.0012)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00046)	ND (0.00049)	ND (0.00053)	ND (0.00052)	ND (0.0008)	ND (0.00045)	ND (0.00066)	ND (0.033)	ND (0.034)	ND (0.00053)	ND (0.00051)	ND (0.00059)
1,2-Dichloroethane	85	98	0.5	ND (0.00092)	ND (0.00098)	ND (0.001)	ND (0.001)	ND (0.0016)	ND (0.0009)	ND (0.0013)	ND (0.065)	ND (0.068)	ND (0.0011)	ND (0.001)	ND (0.0012)
Ethyl Benzene	880	1000	70	0.00023 J (0.00092)	ND (0.00098)	ND (0.001)	ND (0.001)	ND (0.0016)	0.00052 J (0.0009)	ND (0.0013)	0.14 (0.065)	6.6 (0.068)	ND (0.0011)	ND (0.001)	ND (0.0012)
Methyl tert-butyl ether	8500	9800	2	ND (0.0018)	ND (0.002)	ND (0.0021)	0.0003 J (0.0021)	ND (0.0032)	ND (0.0018)	ND (0.0027)	ND (0.13)	ND (0.14)	ND (0.0021)	ND (0.002)	ND (0.0023)
Toluene	10000	10000	100	0.001 (0.00092)	ND (0.00098)	ND (0.001)	ND (0.001)	ND (0.0016)	0.00069 J (0.0009)	ND (0.0013)	0.082 (0.065)	13 (0.068)	ND (0.0011)	ND (0.001)	ND (0.0012)
1,2,4-Trimethylbenzene	4700	5400	300	0.0024 (0.0018)	ND (0.002)	ND (0.0021)	0.015 (0.0021)	ND (0.0032)	0.0064 (0.0018)	ND (0.0027)	2.1 (0.13)	12 (0.14)	ND (0.0021)	ND (0.002)	ND (0.0023)
1,3,5-Trimethylbenzene	4700	5400	93	0.00088 J (0.0018)	ND (0.002)	ND (0.0021)	0.0045 (0.0021)	ND (0.0032)	0.0042 (0.0018)	ND (0.0027)	0.66 (0.13)	3.7 (0.14)	ND (0.0021)	ND (0.002)	ND (0.0023)
Xylenes (total)	7900	9100	1000	0.0048 J (0.0018)	ND (0.002)	ND (0.0021)	0.00123 J (0.0021)	ND (0.0032)	0.00193 J (0.0018)	ND (0.0027)	5.4 J (0.13)	41 J (0.14)	ND (0.0021)	ND (0.002)	ND (0.0023)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.12)
Benzo(a)anthracene	130	190000	340	0.053 J (0.12)	ND (0.12)	0.053 J (0.12)	ND (0.12)	ND (0.1)	0.028 J (0.1)	0.03 J (0.1)	0.058 J (0.11)	0.022 J (0.1)	ND (0.1)	0.089 J (0.12)	ND (0.12)
Benzo(a)pyrene	91	190000	46	0.055 J (0.16)	ND (0.16)	ND (0.17)	ND (0.16)	ND (0.14)	ND (0.14)	ND (0.14)	0.055 J (0.15)	ND (0.14)	ND (0.14)	0.074 J (0.16)	ND (0.16)
Benzo(b)fluoranthene	76	190000	170	0.077 J (0.12)	ND (0.12)	0.051 J (0.12)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.1)	0.08 J (0.11)	ND (0.1)	ND (0.1)	0.095 J (0.12)	ND (0.12)
Benzo(g,h,i)perylene	190000	190000	180	0.032 J (0.16)	ND (0.16)	ND (0.17)	ND (0.16)	ND (0.14)	ND (0.14)	ND (0.14)	0.041 J (0.15)	ND (0.14)	ND (0.14)	0.038 J (0.16)	ND (0.16)
Chrysene	760	190000	230	0.048 J (0.12)	ND (0.12)	0.048 J (0.12)	ND (0.12)	ND (0.1)	0.027 J (0.1)	0.021 J (0.1)	0.11 (0.11)	0.092 J (0.1)	ND (0.1)	0.087 J (0.12)	ND (0.12)
Fluorene	130000	190000	3800	ND (0.2)	ND (0.2)	ND (0.21)	0.35 (0.2)	ND (0.17)	ND (0.17)	ND (0.18)	0.25 (0.19)	0.25 (0.17)	ND (0.17)	ND (0.21)	ND (0.2)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.2)	ND (0.2)	ND (0.21)	0.073 J (0.2)	ND (0.17)	ND (0.17)	ND (0.18)	0.84 (0.19)	3.2 (0.17)	ND (0.17)	0.068 J (0.21)	ND (0.2)
Phenanthrene	190000	190000	10000	ND (0.12)	ND (0.12)	0.033 J (0.12)	0.32 (0.12)	ND (0.1)	0.065 J (0.1)	ND (0.1)	0.45 (0.11)	0.7 (0.1)	ND (0.1)	0.065 J (0.12)	ND (0.12)
Pyrene	96000	190000	2200	0.031 J (0.12)	ND (0.12)	0.055 J (0.12)	ND (0.12)	ND (0.1)	0.039 J (0.1)	0.043 J (0.1)	0.13 (0.11)	0.056 J (0.1)	ND (0.1)	0.091 J (0.12)	ND (0.12)
Metals															
Lead	1000	190000	450	24.5 (2.28)	5.62 (2.36)	8.8 (2.49)	6.72 (2.43)	2.38 (2.03)	89 (9.96)	2.61 (2.04)	60.2 (4.36)	1.95 J (1.99)	2.58 (1.99)	37 (2.43)	5.65 (2.4)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.

2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).

3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-884-12	PB-884-13	PB-884-14	PB-884-15	PB-884-16	PB-884-17	PB-884-18	PB-884-19	PB-884-20	PB-884-21	PB-884-22	PB-884-23
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	DUP-22	PB-884-13-SS01	PB-884-14-SS01	PB-884-15-SS01	PB-884-16-SS01	PB-884-17-SS01	PB-884-18-SS01	PB-884-19-SS01	PB-884-20-SS01	PB-884-21-SS01	PB-884-22-SS01	PB-884-23-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	4.5 - 5.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	12/3/2021	7/14/2022	7/14/2022	7/14/2022	7/14/2022	7/14/2022	7/14/2022	7/14/2022	7/14/2022	7/14/2022	12/6/2021	7/14/2022
Comments	(0-2 ft)	(2-15 ft)	MSCs	Field Duplicate											
Volatile Organic Compounds															
Benzene	280	330	0.5	ND (0.00054)	ND (0.00052)	ND (0.00054)	2.6 (0.029)	ND (0.0009)	ND (0.00058)	0.035 (0.00055)	0.00036 J (0.00057)	ND (0.00055)	ND (0.00047)	ND (0.00066)	ND (0.0005)
Cumene	10000	10000	2500	ND (0.0011)	ND (0.001)	ND (0.0011)	3.6 (0.059)	ND (0.0018)	ND (0.0012)	0.0053 (0.0011)	0.0044 (0.0011)	ND (0.0011)	ND (0.00094)	ND (0.0013)	ND (0.001)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00054)	ND (0.00052)	ND (0.00054)	ND (0.029)	ND (0.0009)	ND (0.00058)	ND (0.00055)	ND (0.00057)	ND (0.00055)	ND (0.00047)	ND (0.00066)	ND (0.0005)
1,2-Dichloroethane	85	98	0.5	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.059)	ND (0.0018)	ND (0.0012)	ND (0.0011)	ND (0.0011)	ND (0.0011)	ND (0.00094)	ND (0.0013)	ND (0.001)
Ethyl Benzene	880	1000	70	ND (0.0011)	ND (0.001)	ND (0.0011)	8.8 (0.059)	ND (0.0018)	ND (0.0012)	0.024 (0.0011)	0.0024 (0.0011)	ND (0.0011)	ND (0.00094)	ND (0.0013)	ND (0.001)
Methyl tert-butyl ether	8500	9800	2	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.12)	ND (0.0036)	ND (0.0023)	0.00054 J (0.0022)	ND (0.0023)	ND (0.0022)	ND (0.0019)	ND (0.0026)	ND (0.002)
Toluene	10000	10000	100	ND (0.0011)	ND (0.001)	ND (0.0011)	9 (0.059)	ND (0.0018)	ND (0.0012)	ND (0.0011)	ND (0.0011)	ND (0.0011)	ND (0.00094)	ND (0.0013)	ND (0.001)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0021)	ND (0.0021)	ND (0.0022)	14 (0.12)	ND (0.0036)	ND (0.0023)	0.033 (0.0022)	0.052 (0.0023)	ND (0.0022)	ND (0.0019)	ND (0.0026)	ND (0.002)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0021)	ND (0.0021)	ND (0.0022)	4.5 (0.12)	ND (0.0036)	ND (0.0023)	0.01 (0.0022)	0.022 (0.0023)	ND (0.0022)	ND (0.0019)	ND (0.0026)	ND (0.002)
Xylenes (total)	7900	9100	1000	ND (0.0021)	ND (0.0021)	ND (0.0022)	47 J (0.12)	ND (0.0036)	ND (0.0023)	0.0275 J (0.0022)	0.05 J (0.0023)	ND (0.0022)	ND (0.0019)	ND (0.0026)	ND (0.002)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	ND (0.12)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)	ND (0.1)
Benzo(a)anthracene	130	190000	340	ND (0.12)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)	ND (0.1)
Benzo(a)pyrene	91	190000	46	ND (0.16)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.16)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)
Benzo(b)fluoranthene	76	190000	170	ND (0.12)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)	ND (0.1)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.16)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.16)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)
Chrysene	760	190000	230	ND (0.12)	ND (0.11)	ND (0.1)	0.059 J (0.1)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)	ND (0.1)
Fluorene	130000	190000	3800	ND (0.2)	ND (0.19)	ND (0.17)	0.13 J (0.17)	ND (0.17)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.17)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.2)	ND (0.19)	ND (0.17)	0.85 (0.17)	ND (0.17)	ND (0.18)	0.05 J (0.2)	0.085 J (0.17)	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.17)
Phenanthrene	190000	190000	10000	ND (0.12)	ND (0.11)	ND (0.1)	0.45 (0.1)	ND (0.1)	ND (0.1)	ND (0.12)	0.04 J (0.1)	ND (0.1)	ND (0.1)	ND (0.11)	ND (0.1)
Pyrene	96000	190000	2200	ND (0.12)	ND (0.11)	ND (0.1)	0.036 J (0.1)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)	ND (0.1)
Metals															
Lead	1000	190000	450	54.3 (2.37)	3.2 (2.13)	2.63 (1.99)	1.68 J (2.02)	1.86 J (2)	1.99 J (2.01)	7.17 (4.64)	1.61 J (2.08)	1.04 J (2.06)	1.98 J (2.05)	2.77 (2.16)	1.61 J (2.08)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.

2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).

3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-884-24	PB-884-25	PB-884-26	PB-884-27	PB-884-28	PB-884-29	PB-885-01	PB-885-02	PB-885-03	PB-885-04	PB-885-05	PB-885-06
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-884-24-SS01	PB-884-25-SS01	PB-884-26-SS01	PB-884-27-SS01	PB-884-28-SS01	PB-884-29-SS01	PB-885-01-SS01	PB-885-02-SS01	PB-885-03-SS01	PB-885-04-SS01	PB-885-05-SS01	PB-885-06-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	3.0 - 3.5	4.5 - 5.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/15/2022	7/15/2022	12/6/2021	12/3/2021	12/3/2021	12/3/2021	12/6/2021	12/6/2021	12/6/2021	7/14/2022	7/14/2022	12/7/2021
Comments	(0-2 ft)	(2-15 ft)	MSCs												
Volatile Organic Compounds															
Benzene	280	330	0.5	0.034 (0.00063)	7.1 (0.027)	ND (0.0006)	ND (0.00025)	ND (0.00048)	ND (0.00045)	ND (0.00051)	ND (0.0005)	ND (0.00054)	ND (0.00046)	ND (0.00047)	ND (0.00056)
Cumene	10000	10000	2500	0.03 (0.0013)	3 (0.054)	ND (0.0012)	ND (0.0005)	ND (0.00096)	ND (0.0009)	ND (0.001)	ND (0.00099)	ND (0.0011)	ND (0.00091)	ND (0.00095)	ND (0.0011)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00063)	ND (0.027)	ND (0.0006)	ND (0.00025)	ND (0.00048)	ND (0.00045)	ND (0.00051)	ND (0.0005)	ND (0.00054)	ND (0.00046)	ND (0.00047)	ND (0.00056)
1,2-Dichloroethane	85	98	0.5	ND (0.0013)	ND (0.054)	ND (0.0012)	ND (0.0005)	ND (0.00096)	ND (0.0009)	ND (0.001)	ND (0.00099)	ND (0.0011)	ND (0.00091)	ND (0.00095)	ND (0.0011)
Ethyl Benzene	880	1000	70	0.095 (0.0013)	9.4 (0.054)	ND (0.0012)	ND (0.0005)	ND (0.00096)	ND (0.0009)	ND (0.001)	ND (0.00099)	ND (0.0011)	ND (0.00091)	ND (0.00095)	ND (0.0011)
Methyl tert-butyl ether	8500	9800	2	ND (0.0025)	ND (0.11)	ND (0.0024)	ND (0.001)	ND (0.0019)	ND (0.0018)	ND (0.002)	ND (0.002)	ND (0.0022)	ND (0.0018)	ND (0.0019)	ND (0.0022)
Toluene	10000	10000	100	ND (0.0013)	15 (0.11)	ND (0.0012)	ND (0.0005)	ND (0.00096)	ND (0.0009)	ND (0.001)	ND (0.00099)	ND (0.0011)	ND (0.00091)	ND (0.00095)	ND (0.0011)
1,2,4-Trimethylbenzene	4700	5400	300	0.13 (0.0025)	12 (0.11)	ND (0.0024)	ND (0.001)	ND (0.0019)	ND (0.0018)	ND (0.002)	ND (0.002)	ND (0.0022)	ND (0.0018)	ND (0.0019)	ND (0.0022)
1,3,5-Trimethylbenzene	4700	5400	93	0.042 (0.0025)	3.8 (0.11)	ND (0.0024)	ND (0.001)	ND (0.0019)	ND (0.0018)	ND (0.002)	ND (0.002)	ND (0.0022)	ND (0.0018)	ND (0.0019)	ND (0.0022)
Xylenes (total)	7900	9100	1000	0.362 J (0.0025)	41 J (0.11)	ND (0.0024)	ND (0.001)	ND (0.0019)	ND (0.0018)	ND (0.002)	ND (0.002)	ND (0.0022)	ND (0.0018)	ND (0.0019)	ND (0.0022)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	ND (0.12)	0.035 J (0.11)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)
Benzo(a)anthracene	130	190000	340	0.048 J (0.12)	0.022 J (0.11)	ND (0.12)	ND (0.12)	0.042 J (0.12)	ND (0.12)	ND (0.11)	0.031 J (0.12)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)
Benzo(a)pyrene	91	190000	46	ND (0.16)	ND (0.14)	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.15)	0.054 J (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)
Benzo(b)fluoranthene	76	190000	170	0.046 J (0.12)	ND (0.11)	ND (0.12)	ND (0.12)	0.039 J (0.12)	ND (0.12)	ND (0.11)	0.075 J (0.12)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.16)	ND (0.14)	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.15)	0.048 J (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)
Chrysene	760	190000	230	0.04 J (0.12)	0.084 J (0.11)	ND (0.12)	ND (0.12)	0.038 J (0.12)	ND (0.12)	ND (0.11)	0.036 J (0.12)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)
Fluorene	130000	190000	3800	ND (0.2)	0.31 (0.18)	ND (0.19)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.18)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	0.082 J (0.2)	2.1 (0.18)	ND (0.19)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.18)
Phenanthrene	190000	190000	10000	0.042 J (0.12)	0.53 (0.11)	ND (0.12)	ND (0.12)	0.045 J (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)
Pyrene	96000	190000	2200	0.051 J (0.12)	0.048 J (0.11)	0.025 J (0.12)	ND (0.12)	0.06 J (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)
Metals															
Lead	1000	190000	450	45.9 (11.7)	3.11 (2.13)	26.5 (2.31)	11.5 (2.41)	9.37 (2.39)	4.49 (2.47)	150 (11.1)	43.9 (11.3)	2.68 (2.05)	1.56 J (2)	1.39 J (1.97)	2.41 (2.07)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.

2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).

3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-885-07	PB-885-08	PB-885-09	PB-885-10	PB-885-11	PB-885-12	PB-885-13	PB-885-14	PB-885-15	PB-885-16	PB-885-17	PB-885-17
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-885-07-SS01	PB-885-08-SS01	PB-885-09-SS01	PB-885-10-SS01	PB-885-11-SS01	PB-885-12-SS01	PB-885-13-SS01	PB-885-14-SS01	PB-885-15-SS01	PB-885-16-SS01	PB-885-17-SS01	DUP-45
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	12/6/2021	12/6/2021	12/6/2021	12/6/2021	12/6/2021	7/14/2022	7/14/2022	7/14/2022	7/14/2022	12/6/2021	7/15/2022	7/15/2022
Comments	(0-2 ft)	(2-15 ft)	MSCs												Field Duplicate
Volatile Organic Compounds															
Benzene	280	330	0.5	ND (0.00056)	ND (0.00042)	ND (0.0005)	ND (0.00058)	ND (0.00053)	ND (0.00043)	ND (0.00048)	ND (0.00042)	ND (0.00045)	ND (0.00056)	ND (0.00041)	ND (0.00046)
Cumene	10000	10000	2500	ND (0.0011)	ND (0.00083)	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.00087)	ND (0.00095)	ND (0.00084)	ND (0.0009)	ND (0.0011)	ND (0.00082)	ND (0.00093)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00056)	ND (0.00042)	ND (0.0005)	ND (0.00058)	ND (0.00053)	ND (0.00043)	ND (0.00048)	ND (0.00042)	ND (0.00045)	ND (0.00056)	ND (0.00041)	ND (0.00046)
1,2-Dichloroethane	85	98	0.5	ND (0.0011)	ND (0.00083)	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.00087)	ND (0.00095)	ND (0.00084)	ND (0.0009)	ND (0.0011)	ND (0.00082)	ND (0.00093)
Ethyl Benzene	880	1000	70	ND (0.0011)	ND (0.00083)	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.00087)	ND (0.00095)	ND (0.00084)	ND (0.0009)	ND (0.0011)	ND (0.00082)	ND (0.00093)
Methyl tert-butyl ether	8500	9800	2	ND (0.0022)	ND (0.0017)	ND (0.002)	ND (0.0023)	ND (0.0021)	ND (0.0017)	ND (0.0019)	ND (0.0017)	ND (0.0018)	ND (0.0022)	ND (0.0016)	ND (0.0018)
Toluene	10000	10000	100	ND (0.0011)	ND (0.00083)	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.00087)	ND (0.00095)	ND (0.00084)	ND (0.0009)	ND (0.0011)	ND (0.00082)	ND (0.00093)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0022)	ND (0.0017)	ND (0.002)	ND (0.0023)	ND (0.0021)	ND (0.0017)	ND (0.0019)	ND (0.0017)	ND (0.0018)	ND (0.0022)	ND (0.0016)	ND (0.0018)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0022)	ND (0.0017)	ND (0.002)	ND (0.0023)	ND (0.0021)	ND (0.0017)	ND (0.0019)	ND (0.0017)	ND (0.0018)	ND (0.0022)	ND (0.0016)	ND (0.0018)
Xylenes (total)	7900	9100	1000	ND (0.0022)	ND (0.0017)	ND (0.002)	ND (0.0023)	ND (0.0021)	ND (0.0017)	ND (0.0019)	ND (0.0017)	ND (0.0018)	ND (0.0022)	ND (0.0016)	ND (0.0018)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	ND (0.11)	ND (0.21)	ND (0.12)	ND (0.1)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.11)	ND (0.11)
Benzo(a)anthracene	130	190000	340	ND (0.11)	ND (0.21)	ND (0.12)	ND (0.1)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.11)	ND (0.11)
Benzo(a)pyrene	91	190000	46	ND (0.15)	ND (0.28)	ND (0.16)	ND (0.14)	ND (0.17)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.16)	ND (0.15)	ND (0.15)
Benzo(b)fluoranthene	76	190000	170	ND (0.11)	ND (0.21)	ND (0.12)	ND (0.1)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.11)	ND (0.11)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.15)	ND (0.28)	ND (0.16)	ND (0.14)	ND (0.17)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.16)	ND (0.15)	ND (0.15)
Chrysene	760	190000	230	ND (0.11)	ND (0.21)	ND (0.12)	ND (0.1)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.11)	ND (0.11)
Fluorene	130000	190000	3800	ND (0.18)	ND (0.35)	ND (0.2)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.2)	ND (0.19)	ND (0.18)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.18)	ND (0.35)	ND (0.2)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.2)	ND (0.19)	ND (0.18)
Phenanthrene	190000	190000	10000	ND (0.11)	ND (0.21)	ND (0.12)	ND (0.1)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.11)	ND (0.11)
Pyrene	96000	190000	2200	ND (0.11)	ND (0.21)	ND (0.12)	ND (0.1)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.11)	ND (0.11)
Metals															
Lead	1000	190000	450	17.4 (2.15)	9.07 (2.01)	7.61 (2.39)	3.04 (2.03)	6.43 (2.5)	1.33 J (1.97)	1.72 J (1.99)	1.45 J (1.95)	1.48 J (1.98)	8.76 J (11.4)	1.53 J (2.21)	2.24 (2.16)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.

2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).

3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-885-18	PB-885-19	PB-885-20	PB-885-21	PB-885-22	PB-885-23	PB-885-23	PB-885-24	PB-885-25	PB-885-26	PB-886-01	PB-886-02
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-885-18-SS01	PB-885-19-SS01	PB-885-20-SS01	PB-885-21-SS01	PB-885-22-SS01	PB-885-23-SS01	DUP-23	PB-885-24-SS01	PB-885-25-SS01	PB-885-26-SS01	PB-886-01-SS01	PB-886-02-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/15/2022	7/15/2022	7/14/2022	12/7/2021	12/7/2021	12/7/2021	12/7/2021	7/15/2022	7/14/2022	12/7/2021	10/7/2021	10/7/2021
Comments	(0-2 ft)	(2-15 ft)	MSCs							Field Duplicate					
Volatile Organic Compounds															
Benzene	280	330	0.5	ND (0.00045)	ND (0.00044)	ND (0.00049)	ND (0.00056)	ND (0.0005)	ND (0.00058)	ND (0.034)	ND (0.00058)	ND (0.00042)	ND (0.0006)	ND (0.00048)	ND (0.00046)
Cumene	10000	10000	2500	ND (0.0009)	ND (0.00087)	ND (0.00099)	ND (0.0011)	ND (0.001)	ND (0.0012)	2 (0.067)	ND (0.0012)	ND (0.00085)	ND (0.0012)	ND (0.00097)	ND (0.00091)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00045)	ND (0.00044)	ND (0.00049)	ND (0.00056)	ND (0.0005)	ND (0.00058)	ND (0.034)	ND (0.00058)	ND (0.00042)	ND (0.0006)	ND (0.00048)	ND (0.00046)
1,2-Dichloroethane	85	98	0.5	ND (0.0009)	ND (0.00087)	ND (0.00099)	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.067)	ND (0.0012)	ND (0.00085)	ND (0.0012)	ND (0.00097)	ND (0.00091)
Ethyl Benzene	880	1000	70	ND (0.0009)	ND (0.00087)	ND (0.00099)	ND (0.0011)	ND (0.001)	ND (0.0012)	0.016 J (0.067)	ND (0.0012)	ND (0.00085)	ND (0.0012)	ND (0.00097)	ND (0.00091)
Methyl tert-butyl ether	8500	9800	2	ND (0.0018)	ND (0.0017)	ND (0.002)	ND (0.0022)	ND (0.002)	ND (0.0023)	ND (0.13)	ND (0.0023)	ND (0.0017)	ND (0.0024)	ND (0.0019)	ND (0.0018)
Toluene	10000	10000	100	ND (0.0009)	ND (0.00087)	ND (0.00099)	ND (0.0011)	ND (0.001)	ND (0.0012)	ND (0.067)	ND (0.0012)	ND (0.00085)	ND (0.0012)	ND (0.00097)	ND (0.00091)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0018)	ND (0.0017)	ND (0.002)	ND (0.0022)	ND (0.002)	ND (0.0023)	0.054 J (0.13)	ND (0.0023)	ND (0.0017)	ND (0.0024)	ND (0.0019)	ND (0.0018)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0018)	ND (0.0017)	ND (0.002)	ND (0.0022)	ND (0.002)	ND (0.0023)	ND (0.13)	ND (0.0023)	ND (0.0017)	ND (0.0024)	ND (0.0019)	ND (0.0018)
Xylenes (total)	7900	9100	1000	ND (0.0018)	ND (0.0017)	ND (0.002)	ND (0.0022)	ND (0.002)	ND (0.0023)	0.101 J (0.13)	ND (0.0023)	ND (0.0017)	ND (0.0024)	ND (0.0019)	ND (0.0018)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	ND (0.1)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.1)	3.7 (2.4)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.12)
Benzo(a)anthracene	130	190000	340	ND (0.1)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.1)	ND (2.4)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.12)
Benzo(a)pyrene	91	190000	46	ND (0.14)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.16)	ND (0.14)	ND (3.2)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.16)
Benzo(b)fluoranthene	76	190000	170	ND (0.1)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.1)	ND (2.4)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.12)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.14)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.16)	ND (0.14)	ND (3.2)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.16)
Chrysene	760	190000	230	ND (0.1)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.1)	ND (2.4)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.12)
Fluorene	130000	190000	3800	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.2)	ND (0.17)	14 (4)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.2)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.2)	ND (0.17)	ND (4)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.2)
Phenanthrene	190000	190000	10000	ND (0.1)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.1)	29 (2.4)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.12)
Pyrene	96000	190000	2200	ND (0.1)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.1)	2.9 (2.4)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.12)
Metals															
Lead	1000	190000	450	1.49 J (2.06)	1.93 J (2.13)	1.63 J (1.97)	3.11 (2.06)	4.76 (4.73)	2.8 (2.08)	6.69 (2.29)	1.63 J (2.16)	1.5 J (1.97)	2.28 (2.05)	6.35 (4.55)	5.8 (4.64)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.

2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).

3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-886-03	PB-886-04	PB-886-05	PB-886-06	PB-886-07	PB-886-08	PB-886-09	PB-886-09	PB-886-10	PB-886-11	PB-886-12	PB-886-13
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-886-03-SS01	PB-886-04-SS01	PB-886-05-SS01	PB-886-06-SS01	PB-886-07-SS01	PB-886-08-SS01	PB-886-09-SS01	DUP-21	PB-886-10-SS01	PB-886-11-SS01	PB-886-12-SS01	PB-886-13-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	4.5 - 5.0	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.5 - 4.0	4.0 - 4.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	10/7/2021	10/7/2021	10/7/2021	7/15/2022	7/15/2022	10/7/2021	10/7/2021	10/7/2021	7/15/2022	10/7/2021	10/7/2021	7/15/2022
Comments	(0-2 ft)	(2-15 ft)	MSCs								Field Duplicate				
Volatile Organic Compounds															
Benzene	280	330	0.5	ND (0.00051)	ND (0.0005)	ND (0.00042)	ND (0.00054)	ND (0.0012)	ND (0.038)	ND (0.00045)	ND (0.00063)	ND (0.0006)	ND (0.00059)	ND (0.00072)	ND (0.0011)
Cumene	10000	10000	2500	ND (0.001)	0.00018 J (0.001)	ND (0.00084)	ND (0.0011)	ND (0.0024)	0.015 J (0.075)	ND (0.0009)	0.00098 J (0.0013)	ND (0.0012)	ND (0.0012)	ND (0.0014)	ND (0.0021)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00051)	ND (0.0005)	ND (0.00042)	ND (0.00054)	ND (0.0012)	ND (0.038)	ND (0.00045)	ND (0.00063)	ND (0.0006)	ND (0.00059)	ND (0.00072)	ND (0.0011)
1,2-Dichloroethane	85	98	0.5	ND (0.001)	ND (0.001)	ND (0.00084)	ND (0.0011)	ND (0.0024)	ND (0.075)	ND (0.0009)	ND (0.0013)	ND (0.0012)	ND (0.0012)	ND (0.0014)	ND (0.0021)
Ethyl Benzene	880	1000	70	ND (0.001)	0.00014 J (0.001)	ND (0.00084)	ND (0.0011)	ND (0.0024)	ND (0.075)	ND (0.0009)	0.00033 J (0.0013)	ND (0.0012)	ND (0.0012)	ND (0.0014)	ND (0.0021)
Methyl tert-butyl ether	8500	9800	2	ND (0.002)	ND (0.002)	ND (0.0017)	ND (0.0021)	ND (0.0047)	ND (0.15)	ND (0.0018)	ND (0.0025)	ND (0.0024)	ND (0.0024)	ND (0.0029)	ND (0.0043)
Toluene	10000	10000	100	ND (0.001)	ND (0.001)	ND (0.00084)	ND (0.0011)	ND (0.0024)	ND (0.075)	ND (0.0009)	ND (0.0013)	ND (0.0012)	ND (0.0012)	ND (0.0014)	ND (0.0021)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.002)	ND (0.002)	ND (0.0017)	ND (0.0021)	ND (0.0047)	ND (0.15)	ND (0.0018)	0.025 (0.0025)	0.00084 J (0.0024)	ND (0.0024)	0.0011 J (0.0029)	ND (0.0043)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.002)	ND (0.002)	ND (0.0017)	ND (0.0021)	ND (0.0047)	ND (0.15)	ND (0.0018)	0.024 (0.0025)	0.0014 J (0.0024)	ND (0.0024)	0.0014 J (0.0029)	ND (0.0043)
Xylenes (total)	7900	9100	1000	ND (0.002)	ND (0.002)	ND (0.0017)	ND (0.0021)	ND (0.0047)	ND (0.15)	ND (0.0018)	0.00207 J (0.0025)	0.00173 J (0.0024)	ND (0.0024)	0.00194 J (0.0029)	ND (0.0043)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.11)	ND (0.11)	0.32 (0.1)	ND (0.1)	ND (0.1)	0.16 (0.11)	ND (0.11)	ND (0.12)	ND (0.11)
Benzo(a)anthracene	130	190000	340	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.11)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.11)
Benzo(a)pyrene	91	190000	46	ND (0.16)	ND (0.16)	ND (0.14)	ND (0.15)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.15)	ND (0.15)
Benzo(b)fluoranthene	76	190000	170	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.11)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.11)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.16)	ND (0.16)	ND (0.14)	ND (0.15)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.15)	ND (0.15)
Chrysene	760	190000	230	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.11)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.11)
Fluorene	130000	190000	3800	ND (0.2)	ND (0.19)	ND (0.18)	ND (0.19)	ND (0.19)	0.88 (0.18)	ND (0.18)	ND (0.18)	0.35 (0.18)	ND (0.18)	0.044 J (0.19)	ND (0.19)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.2)	ND (0.19)	ND (0.18)	ND (0.19)	ND (0.19)	0.062 J (0.18)	ND (0.18)	ND (0.18)	0.041 J (0.18)	ND (0.18)	ND (0.19)	ND (0.19)
Phenanthrene	190000	190000	10000	ND (0.12)	0.043 J (0.12)	ND (0.1)	ND (0.11)	ND (0.11)	1.7 (0.1)	ND (0.1)	ND (0.1)	0.78 (0.11)	ND (0.11)	0.12 (0.12)	ND (0.11)
Pyrene	96000	190000	2200	ND (0.12)	ND (0.12)	ND (0.1)	ND (0.11)	ND (0.11)	0.1 (0.1)	ND (0.1)	ND (0.1)	0.049 J (0.11)	ND (0.11)	ND (0.12)	ND (0.11)
Metals															
Lead	1000	190000	450	6.5 (4.81)	8.09 (4.65)	2.94 J (4.12)	2.26 (2.2)	2.62 (2.23)	81.9 (2.1)	1.76 J (2.1)	1.87 J (2.09)	1.97 J (2.11)	11.7 (2.14)	5.66 (4.58)	3.04 (2.26)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).
3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-886-14	PB-886-14	PB-886-15	PB-886-16	PB-886-17	PB-886-18	PB-886-19	PB-886-20	PB-886-21	PB-886-22	PB-886-23	PB-886-24
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-886-14-SS01	DUP-46	PB-886-15-SS01	PB-886-16-SS01	PB-886-17-SS01	PB-886-18-SS01	PB-886-19-SS01	PB-886-20-SS01	PB-886-21-SS01	PB-886-22-SS01	PB-886-23-SS01	PB-886-24-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/15/2022	7/15/2022	7/15/2022	7/15/2022	7/15/2022	10/7/2021	7/15/2022	7/15/2022	7/15/2022	7/15/2022	7/15/2022	10/7/2021
Comments	(0-2 ft)	(2-15 ft)	MSCs		Field Duplicate										
Volatile Organic Compounds															
Benzene	280	330	0.5	ND (0.00061)	ND (0.00083)	ND (0.00087)	ND (0.00043)	ND (0.00052)	ND (0.00057)	ND (0.00066)	ND (0.00063)	ND (0.00044)	ND (0.0005)	ND (0.0005)	ND (0.00053)
Cumene	10000	10000	2500	ND (0.0012)	ND (0.0017)	ND (0.0017)	ND (0.00087)	0.00012 J (0.001)	ND (0.0011)	ND (0.0013)	ND (0.0012)	ND (0.00089)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00061)	ND (0.00083)	ND (0.00087)	ND (0.00043)	ND (0.00052)	ND (0.00057)	ND (0.00066)	ND (0.00063)	ND (0.00044)	ND (0.0005)	ND (0.0005)	ND (0.00053)
1,2-Dichloroethane	85	98	0.5	ND (0.0012)	ND (0.0017)	ND (0.0017)	ND (0.00087)	ND (0.001)	ND (0.0011)	ND (0.0013)	ND (0.0012)	ND (0.00089)	ND (0.001)	ND (0.001)	ND (0.001)
Ethyl Benzene	880	1000	70	ND (0.0012)	ND (0.0017)	ND (0.0017)	ND (0.00087)	ND (0.001)	ND (0.0011)	ND (0.0013)	ND (0.0012)	ND (0.00089)	ND (0.001)	ND (0.001)	ND (0.001)
Methyl tert-butyl ether	8500	9800	2	ND (0.0024)	ND (0.0033)	ND (0.0035)	ND (0.0017)	ND (0.0021)	ND (0.0023)	ND (0.0026)	ND (0.0025)	ND (0.0018)	ND (0.002)	ND (0.002)	ND (0.0021)
Toluene	10000	10000	100	ND (0.0012)	ND (0.0017)	ND (0.0017)	ND (0.00087)	ND (0.001)	ND (0.0011)	ND (0.0013)	ND (0.0012)	ND (0.00089)	ND (0.001)	ND (0.001)	ND (0.001)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0024)	ND (0.0033)	ND (0.0035)	ND (0.0017)	0.0025 (0.0021)	ND (0.0023)	ND (0.0026)	ND (0.0025)	ND (0.0018)	ND (0.002)	ND (0.002)	ND (0.0021)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0024)	ND (0.0033)	ND (0.0035)	ND (0.0017)	0.00082 J (0.0021)	ND (0.0023)	ND (0.0026)	ND (0.0025)	ND (0.0018)	ND (0.002)	ND (0.002)	ND (0.0021)
Xylenes (total)	7900	9100	1000	ND (0.0024)	ND (0.0033)	ND (0.0035)	ND (0.0017)	ND (0.0021)	ND (0.0023)	ND (0.0026)	ND (0.0025)	ND (0.0018)	ND (0.002)	ND (0.002)	ND (0.0021)
Semivolatile Organic Compounds															
Anthracene	190000	190000	350	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.12)
Benzo(a)anthracene	130	190000	340	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.12)	0.022 J (0.11)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.12)
Benzo(a)pyrene	91	190000	46	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.14)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.16)
Benzo(b)fluoranthene	76	190000	170	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.12)	0.036 J (0.11)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.12)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.14)	ND (0.15)	0.027 J (0.15)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.16)
Chrysene	760	190000	230	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.12)	0.093 J (0.11)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.12)
Fluorene	130000	190000	3800	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.18)	0.046 J (0.19)	0.03 J (0.18)	ND (0.19)	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	66	77	25	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.18)	0.092 J (0.19)	0.14 J (0.18)	ND (0.19)	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)
Phenanthrene	190000	190000	10000	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	0.13 (0.12)	0.12 (0.11)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.12)
Pyrene	96000	190000	2200	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.12)	0.11 (0.11)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.12)
Metals															
Lead	1000	190000	450	2.16 J (2.18)	2.04 J (2.14)	2.56 (2.2)	1.82 J (2.13)	1.8 J (2.27)	1.92 J (2.1)	2.28 (2.24)	2.19 J (2.22)	1.82 J (2.23)	2.06 J (2.24)	1.95 J (2.21)	4.51 (2.35)

Notes:

1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.

2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).

3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:

ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I1
Summary of BDH Soil Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	Non-Residential	Non-Residential	Non-Residential	PB-886-25	PB-886-26	PB-886-27
Field Sample ID	Direct Contact	Direct Contact	Used Aquifer	PB-886-25-SS01	PB-886-26-SS01	PB-886-27-SS01
Collection Depth (ft bgs)	MSCs for	MSCs for	(TDS ≤ 2500)	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5
Sample Date	Surface Soil	Subsurface Soil	Soil-to-Groundwater	7/15/2022	10/7/2021	10/7/2021
Comments	(0-2 ft)	(2-15 ft)	MSCs			
Volatile Organic Compounds						
Benzene	280	330	0.5	ND (0.00045)	0.00025 J (0.00057)	ND (0.00047)
Cumene	10000	10000	2500	ND (0.0009)	0.0089 (0.0011)	0.00021 J (0.00095)
1,2-Dibromoethane	3.7	4.2	0.005	ND (0.00045)	ND (0.00057)	ND (0.00047)
1,2-Dichloroethane	85	98	0.5	ND (0.0009)	ND (0.0011)	ND (0.00095)
Ethyl Benzene	880	1000	70	ND (0.0009)	0.0032 (0.0011)	0.00018 J (0.00095)
Methyl tert-butyl ether	8500	9800	2	ND (0.0018)	ND (0.0023)	ND (0.0019)
Toluene	10000	10000	100	ND (0.0009)	0.0012 (0.0011)	ND (0.00095)
1,2,4-Trimethylbenzene	4700	5400	300	ND (0.0018)	0.17 (0.0023)	0.051 (0.0019)
1,3,5-Trimethylbenzene	4700	5400	93	ND (0.0018)	0.14 (0.0023)	ND (0.12)
Xylenes (total)	7900	9100	1000	ND (0.0018)	0.025 J (0.0023)	0.00107 J (0.0019)
Semivolatile Organic Compounds						
Anthracene	190000	190000	350	ND (0.11)	0.034 J (0.11)	ND (0.1)
Benzo(a)anthracene	130	190000	340	ND (0.11)	ND (0.11)	ND (0.1)
Benzo(a)pyrene	91	190000	46	ND (0.15)	ND (0.14)	ND (0.14)
Benzo(b)fluoranthene	76	190000	170	ND (0.11)	ND (0.11)	ND (0.1)
Benzo(g,h,i)perylene	190000	190000	180	ND (0.15)	ND (0.14)	ND (0.14)
Chrysene	760	190000	230	ND (0.11)	0.031 J (0.11)	ND (0.1)
Fluorene	130000	190000	3800	ND (0.18)	0.054 J (0.18)	ND (0.17)
Indeno(1,2,3-cd)pyrene	76	190000	18000	NA	NA	NA
Naphthalene	66	77	25	ND (0.18)	0.022 J (0.18)	ND (0.17)
Phenanthrene	190000	190000	10000	ND (0.11)	0.12 (0.11)	ND (0.1)
Pyrene	96000	190000	2200	ND (0.11)	0.045 J (0.11)	ND (0.1)
Metals						
Lead	1000	190000	450	1.81 J (2.18)	2.15 (2.08)	2.28 (2.04)

Notes:
1 All concentrations reported in mg/kg (ppm); detection limits in parentheses.
2 No surface concentrations exceed the NonRes DC Surface MSC (0-2 ft) and no subsurface concentrations exceed the NonRes DC Subsurface MSC (2-15 ft).
3 Underlined concentrations exceed the Non-Residential Used Aquifer (TDS ≤ 2500) Soil-to-Groundwater MSCs.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I2
Summary of BDH Soil QAQC Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC
Field Sample ID	**TB-211203**	**FB-211203**	**FB-211206**	**TB-211207**	**FB-211207**	**TB-211208**	**FB-211208-1**	**FB-211208-2**	**TB-211209**	**FB-211209**	**TB-070822**	**FB-070822-1**	**FB-070822-2**	**FB-070822-3**	**FB-070822-4**	**TB-071122**	**FB-071122-1**
Sample Date	**12/3/2021**	**12/3/2021**	**12/6/2021**	**12/7/2021**	**12/7/2021**	**12/8/2021**	**12/8/2021**	**12/8/2021**	**12/9/2021**	**12/9/2021**	**7/8/2022**	**7/8/2022**	**7/8/2022**	**7/8/2022**	**7/8/2022**	**7/11/2022**	**7/11/2022**
Comments	**Trip Blank**	**Field Blank**	**Field Blank**	**Trip Blank**	**Field Blank**	**Trip Blank**	**Field Blank**	**Field Blank**	**Trip Blank**	**Field Blank**	**Trip Blank**	**Field Blank**	**Field Blank**	**Field Blank**	**Field Blank**	**Trip Blank**	**Field Blank**
Volatile Organic Compounds	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Semivolatile Organic Compounds																	
Anthracene	NA	ND (0.1)	ND (0.1)	NA	ND (0.1)	NA	ND (0.1)	ND (0.1)	NA	ND (0.1)	NA	ND (0.1)	0.01 J (0.1)	ND (0.1)	ND (0.1)	NA	0.02 J (0.1)
Benzo(a)anthracene	NA	ND (0.05)	ND (0.05)	NA	0.02 J (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)
Benzo(a)pyrene	NA	ND (0.1)	ND (0.1)	NA	ND (0.1)	NA	ND (0.1)	ND (0.1)	NA	ND (0.1)	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)
Benzo(b)fluoranthene	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)
Benzo(g,h,i)perylene	NA	ND (0.1)	ND (0.1)	NA	ND (0.1)	NA	ND (0.1)	ND (0.1)	NA	ND (0.1)	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)
Chrysene	NA	0.01 J (0.1)	ND (0.1)	NA	ND (0.1)	NA	ND (0.1)	ND (0.1)	NA	ND (0.1)	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)
Fluorene	NA	ND (0.1)	ND (0.1)	NA	ND (0.1)	NA	ND (0.1)	ND (0.1)	NA	ND (0.1)	NA	ND (0.1)	0.02 J (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.1)	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	ND (0.1)	ND (0.1)	NA	ND (0.1)	NA	0.09 J (0.1)	ND (0.1)	NA	ND (0.1)	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)
Phenanthrene	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	NA	ND (0.05)	0.04 J (0.05)	ND (0.05)	ND (0.05)	NA	0.04 J (0.05)
Metals	NA	ND	ND	NA	ND	NAN	ND	ND	NA	ND	NA	ND	ND	ND	ND	NA	ND

Notes:
1 All concentrations reported in ug/L (ppb); detection limits in parentheses.
2 Only compounds with at least one detection are shown.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I2
Summary of BDH Soil QAQC Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC	QAQC
Field Sample ID	**FB-071122-2**	**FB-071122-3**	**FB-071122-4**	**TB-220712**	**FB-071222-1**	**FB-071222-2**	**FB-220712-3**	**TB-071322**	**FB-071322-1**	**FB-071322-2**	**TB-071422**	**FB-071422-1**	**FB-071422-2**	**FB-071422-3**	**FB-071422-4**	**TB-071522**	**FB-07152022-2**
Sample Date	**7/11/2022**	**7/11/2022**	**7/11/2022**	**7/12/2022**	**7/12/2022**	**7/12/2022**	**7/12/2022**	**7/13/2022**	**7/13/2022**	**7/13/2022**	**7/14/2022**	**7/14/2022**	**7/14/2022**	**7/14/2022**	**7/14/2022**	**7/15/2022**	**7/15/2022**
Comments	**Field Blank**	**Field Blank**	**Field Blank**	**Trip Blank**	**Field Blank**	**Field Blank**	**Field Blank**	**Trip Blank**	**Field Blank**	**Field Blank**	**Trip Blank**	**Field Blank**	**Field Blank**	**Field Blank**	**Field Blank**	**Trip Blank**	**Field Blank**
Volatile Organic Compounds	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Semivolatile Organic Compounds																	
Anthracene	ND (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)	ND (0.1)	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)
Benzo(a)anthracene	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	0.02 J (0.05)
Benzo(a)pyrene	ND (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)	ND (0.1)	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)
Benzo(b)fluoranthene	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)
Benzo(g,h,i)perylene	ND (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)	ND (0.1)	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)
Chrysene	ND (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)	ND (0.1)	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	NA	0.01 J (0.1)
Fluorene	ND (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)	ND (0.1)	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.1)
Naphthalene	0.05 J (0.1)	ND (0.1)	ND (0.1)	NA	ND (0.1)	ND (0.1)	ND (0.1)	NA	0.05 J (0.1)	ND (0.1)	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	NA	0.09 J (0.1)
Phenanthrene	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	NA	ND (0.05)	0.03 J (0.05)	NA	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	NA	0.04 J (0.05)
Metals	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	ND	NA	ND

Notes:
1 All concentrations reported in ug/L (ppb); detection limits in parentheses.
2 Only compounds with at least one detection are shown.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I2
Summary of BDH Soil QAQC Analytical Results
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Location	QAQC	QAQC	QAQC
Field Sample ID	FB-07152022-3	FB-071522-1	TB-221220-1
Sample Date	7/15/2022	7/15/2022	12/19/2022
Comments	Field Blank	Field Blank	Trip Blank
Volatile Organic Compounds	ND	ND	ND
Semivolatile Organic Compounds			
Anthracene	ND (0.1)	ND (0.1)	NA
Benzo(a)anthracene	0.03 J (0.05)	ND (0.05)	NA
Benzo(a)pyrene	0.02 J (0.1)	ND (0.1)	NA
Benzo(b)fluoranthene	0.04 J (0.05)	ND (0.05)	NA
Benzo(g,h,i)perylene	0.03 J (0.1)	ND (0.1)	NA
Chrysene	0.02 J (0.1)	ND (0.1)	NA
Fluorene	ND (0.1)	ND (0.1)	NA
Indeno(1,2,3-cd)pyrene	0.03 J (0.1)	NA	NA
Naphthalene	ND (0.1)	ND (0.1)	NA
Phenanthrene	ND (0.05)	ND (0.05)	NA
Metals	ND	ND	NA

Notes:
1 All concentrations reported in ug/L (ppb); detection limits in parentheses.
2 Only compounds with at least one detection are shown.

Abbreviations:
ND - Not Detected
NA - Not Analyzed
J - Estimated Concentration

Table I3
Summary of BDH Groundwater Analytical Results
Tank Group 04
Bellwether Holdings, LLC, Philadelphia, PA

Location	Non-Residential	S-219	S-219	TG04-MW-01	TG04-MW-01	TG04-MW-01	TG04-MW-03	TG04-MW-03	TG04-MW-03
Field Sample ID	Groundwater	S-219-230106	S-219-230209	TG04-MW-01-230106	TG04-MW-01-230209	TG04-MW-01-230209D	TG04-MW-03-230104	TG04-MW-03-230104D	TG04-MW-03-230209
Sample Method	MSC	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Sample Date	Used Aquifer	1/6/2023	2/9/2023	1/6/2023	2/9/2023	2/9/2023	1/4/2023	1/4/2023	2/9/2023
Comments	(TDS ≤ 2500)					Field Duplicate		Field Duplicate	
Volatile Organic Compounds									
Benzene	5	ND (0.5)	ND (0.5)	580 (2.5)	530 (2.5)	510 (2.5)	ND (0.5)	ND (0.5)	ND (0.5)
Cumene	3500	0.28 J (0.5)	ND (0.5)	75 (2.5)	64 (2.5)	58 (2.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,2-Dibromoethane	0.05	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
1,2-Dichloroethane	5	ND (0.5)	ND (0.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ethyl Benzene	700	ND (0.5)	ND (0.5)	110 (2.5)	96 (2.5)	89 (2.5)	ND (0.5)	ND (0.5)	ND (0.5)
Methyl tert-butyl ether	20	ND (1)	ND (1)	ND (5)	ND (5)	ND (5)	ND (1)	ND (1)	ND (1)
Toluene	1000	ND (0.75)	0.34 J (0.75)	11 (3.8)	10 (3.8)	9.6 (3.8)	ND (0.75)	ND (0.75)	0.34 J (0.75)
1,2,4-Trimethylbenzene	530	ND (2.5)	ND (2.5)	54 (12)	47 (12)	45 (12)	ND (2.5)	ND (2.5)	ND (2.5)
1,3,5-Trimethylbenzene	530	ND (2.5)	ND (2.5)	13 (12)	12 (12)	11 J (12)	ND (2.5)	ND (2.5)	ND (2.5)
Xylenes (total)	10000	ND (1)	ND (1)	190 (5)	200 (5)	190 (5)	ND (1)	ND (1)	ND (1)
Semivolatile Organic Compounds									
Anthracene	66	ND (0.1)	ND (0.1)	0.11 (0.1)	0.23 (0.1)	0.32 (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Benzo(a)anthracene	3.9	0.18 (0.05)	ND (0.05)	0.1 (0.05)	0.02 J (0.05)	0.02 J (0.05)	ND (0.05)	0.03 J (0.05)	ND (0.05)
Benzo(a)pyrene	0.2	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Benzo(b)fluoranthene	1.2	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Benzo(g,h,i)perylene	0.26	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Chrysene	1.9	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Fluorene	1900	ND (0.1)	ND (0.1)	0.92 (0.1)	0.5 (0.1)	0.55 (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Indeno(1,2,3-cd)pyrene	2.3	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Naphthalene	100	ND (0.1)	ND (0.1)	9.4 (0.1)	0.19 (0.1)	1.5 (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Phenanthrene	1100	ND (0.05)	ND (0.05)	0.25 (0.05)	0.04 J (0.05)	0.04 J (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Pyrene	130	ND (0.1)	ND (0.1)	0.06 J (0.1)	0.02 J (0.1)	0.03 J (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Metals									
Lead		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)

Notes:
1 All concentrations reported in ug/L (ppb); detection limits in parentheses.
2 Underlined concentrations exceed the Non-Residential Groundwater MSC Used Aquifer(TDS ≤ 2500).

Abbreviations:
ND - Not Detected
J - Estimated Concentration

Table I4

Summary of BDH Groundwater QAQC Analytical Results

Tank Group 04

Bellwether Holdings, LLC, Philadelphia, PA

Location	QAQC	QAQC	QAQC
Field Sample ID	**TB-230106-2**	**FB-230209-2**	**TB-230209-2**
Sample Date	**1/6/2023**	**2/9/2023**	**2/9/2023**
Comments	**Trip Blank**	**Field Blank**	**Trip Blank**
Volatile Organic Compounds			
Ethyl Benzene	ND (0.5)	0.91 (0.5)	ND (0.5)
Toluene	ND (0.75)	1.7 (0.75)	ND (0.75)
Xylenes (total)	ND (1)	4.7 (1)	ND (1)
Semivolatile Organic Compounds			
Naphthalene	NA	0.11 (0.1)	NA
Metals	NA	ND	NA

Notes:

1 All concentrations reported in ug/L (ppb); detection limits in parentheses.

Abbreviations:

ND - Not Detected

NA - Not Analyzed

Table I5
Quality Control Methodology
Bellwether District Holdings, LLC, Philadelphia, PA

Multiple VOC Runs Data Quality	Solution
If the surrogate recoveries for one run are **within acceptance criteria** and the other run has **3-4 surrogates outside of acceptance criteria**:	The run with surrogate recoveries within acceptance criteria is selected as reportable.
If the surrogate recoveries for one run are **within acceptance criteria** and has some **detections** and the other run has **1-2 surrogates outside of acceptance criteria**:	The run with surrogate recoveries within acceptance criteria is selected as reportable.
If one run has surrogate recoveries **within acceptance critera** but is **non-detect** and the other run has **1-2 surrogates outside of acceptance** criteria but has **detections**:	The run with detections is selected as reportable and the run with non-detects is not reported.
If both runs have **detections** and **surrogate recoveries outside of acceptance criteria**:	The run with more surrogates recoveries outside acceptance criteria is not reported and the run with fewer surrogate recoveries outside of acceptance criteria is selected as reportable.
If one run has surrogate recoveries **outside of acceptance critera** but is **non-detect** and the other run has **1-2 more surrogates outside of acceptance** criteria but has **detections**:	The run with detections is selected as reportable and the run with non-detects is not reported.
If both runs have the **same number of surrogates** with recovery outside the acceptance criteria:	If both results are detected, the higher of detections is selected as reportable; if one result is detected and one is non-detect, the detection is selected as reportable; if both results are non-detect, the lower reporting limit is selected as reportable .
If two VOC runs are reported and there are no QC issues for both runs:	If both results are detected, the higher of detections is selected as reportable; if one result is detected and one is non-detect, the detection is selected as reportable; if both results are non-detect, the lower reporting limit is selected as reportable .

Table I6
Quality Control Checklist
Bellwether District Holdings, LLC, Philadelphia, PA

	Keyfile-Related		EDD-Related											
							Multiple Results							
Date Sampled	Check Lab Login and Keyfile	Check COC/Field Notes Uploaded	Check Sample IDs	Check Analyte List Reported	Review EDD for Issues	Check Dates, Matrix and Sample Type	Reported	Surrogate Recovery	Data Qualifiers	Reasonable Limits	Other	Resolved	Check for Concerning Qualifiers	Comments
10/7/2021	Pass	Pass	Pass	Pass	Pass	Pass	Yes	Yes	Yes	Yes	Yes	Yes	Pass	L2154810-13 (PB-886-27-SS01): VOCs reported for two runs. The sample was analyzed as a High Level Methanol in order to quantitate results within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial Low Level analysis. The results of both analyses are reported. If both results are detected, the higher of detections is selected as reportable; if one result is detected and one is non-detect, the detection is selected as reportable; if both results are non-detect, the lower reporting limit is selected as reportable.
12/6/2021	Pass	Pass	Pass	Pass	Pass	Pass	No						Pass	
12/9/2021	Pass	Pass	Pass	Pass	Pass	Pass	No						Pass	
7/8/2022	Pass	Pass	Pass	Pass	Pass	Pass	No						Pass	
7/8/2022	Pass	Pass	Pass	Pass	Pass	Pass	No						Pass	
7/11/2022	Pass	Pass	Pass	Pass	Pass	Pass	Yes	Yes	Yes	Yes	Yes	Yes	Pass	L2236779-07 (PB-848-07-SS01): VOCs reported for two runs. The sample was analyzed as a High Level Methanol based upon screen results. The sample was then analyzed as a Low Level in order to achieve lower reporting limits. The run with surrogate recoveries within acceptance criteria is selected as reportable. The low run is not reportable and the high run is reported. L2236779-11 (PB-848-11-SS01): VOCs reported for two runs. The IS response(s) for fluorobenzene (223%) was above the acceptance criteria due to obvious interferences. The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (199%); however, low-level re-analysis was not performed due to obvious interferences. The run with surrogate recoveries within acceptance criteria is selected as reportable. The low run is not reportable and the high run is reported. L2236779-18 (PB-848-18-SS01): VOCs reported for two runs. The IS response(s) for fluorobenzene (422%) and the surrogate recoveries for dibromofluoromethane (27%) and 4-bromofluorobenzene (262%) were outside the acceptance criteria due to obvious interferences. The run with surrogate recoveries within acceptance criteria is selected as reportable. The low run is not reportable and the high run is reported.
7/11/2022	Pass	Pass	Pass	Pass	Pass	Pass	No						Pass	
7/12/2022	Pass	Pass	Pass	Pass	Pass	Pass	Yes	Yes	Yes	Yes	Yes	Yes	Pass	L2236962-01 (PB-881-01-SS01): VOCs reported for two runs. The IS response(s) for 1,4-dichlorobenzene-d4 (43%) and the surrogate recovery for 4-bromofluorobenzene (3132%) were outside the acceptance criteria due to obvious interferences. The run with detections is selected as reportable and the run with non-detects is not reported. The high run is not reportable and the low run is reported. L2236962-07 (PB-881-07-SS01): VOCs reported for two runs. The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (507%); however, the sample was not re-analyzed due to coelution with an obvious interference. The run with surrogate recoveries within acceptance criteria is selected as reportable. The low run is not reportable and the high run is reported. L2236962-21 (DUP-41): VOCs reported for two runs. The sample was analyzed as a High Level Methanol in order to quantitate results within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial Low Level analysis. The run with surrogate recoveries within acceptance criteria is selected as reportable. The low run is not reportable and the high run is reported.
7/12/2022	Pass	Pass	Pass	Pass	Pass	Pass	No						Pass	
7/13/2022	Pass	Pass	Pass	Pass	Pass	Pass	No						Pass	
7/13/2022	Pass	Pass	Pass	Pass	Pass	Pass	No						Pass	
7/14/2022	Pass	Pass	Pass	Pass	Pass	Pass	Yes	Yes	Yes	Yes	Yes	Yes	Pass	L2237705-07 (PB-884-08-SS01): VOCs reported for two runs. The surrogate recovery was outside the acceptance criteria for 1,2-dichloroethane-d4 (131%) due to obvious interferences. The run with surrogate recoveries within acceptance criteria is selected as reportable. The low run is not reportable and the high run is reported. L2237705-22 (TB-071422): 1,2-Dibromoethane reported for two runs. Result reported under method 8011 is reported.
7/14/2022	Pass	Pass	Pass	Pass	Pass	Pass	No						Pass	
7/15/2022	Pass	Pass	Pass	Pass	Pass	Pass	No						Pass	
7/15/2022	Pass	Pass	Pass	Pass	Pass	Pass	No						Pass	
12/19/2022	Pass	Pass	Pass	Pass	Pass	Pass	No						Pass	
1/3/2023, 1/4/2023	Pass	Pass	Pass	Pass	Pass	Pass	No						Pass	L2300373-21 (PB-847-15R-17.0-17.5): VOCs reported for two runs. The IS response for fluorobenzene (479%) and the surrogate recoveries for dibromofluoromethane (35%) and 4-bromofluorobenzene (675%) were outside the acceptance criteria due to obvious interferences. The run with more surrogates recoveries outside acceptance criteria is not reported and the run with fewer surrogate recoveries outside of acceptance criteria is selected as reportable. The high run is reported and the low run is not reportable.
1/4/2023	Pass	Pass	Pass	Pass	Pass	Pass	Yes	Yes	Yes	Yes	Yes	Yes	Pass	L2300364-01 through -06 (TG04-MW-03-230104, TG04-MW-03-230104D, TG07-MW-02-230104, TB-230104-2, FB-230104-2, TG07-MW-03-230104): VOCs (1,2-Dibromomethane) reported for two runs. The WG1730299-2 LCS recovery for 1,2-dibromoethane (130%), associated with L2300364-01 through -06, is outside Alpha's acceptance criteria, but within the acceptance criteria specified in the method. The WG1730299-4 MSD recovery for 1,2-dibromoethane (125%), performed on L2300364-03, is outside Alpha's acceptance criteria, but within the acceptance criteria specified in the method. If both results are non-detect, the lower reporting limit is selected as reportable.
1/5/2023, 1/6/2023	Pass	Pass	Pass	Pass	Pass	Pass	No						Pass	
1/6/2023	Pass	Pass	Pass	Pass	Pass	Pass	No*						Pass	DBA
2/8/2023, 2/9/2023	Pass	Pass	Pass	Pass	Pass	Pass	Yes	Yes	Yes	Yes	Yes	Yes	Pass	1,2-Dibromomethane reported for two runs for all samples. If both results are non-detect, the lower reporting limit is selected as reportable.

Table I7
Soil RPD Calculations
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Dataset	Location Code	Sample Name	Sample Date	Chem Group	PARAMNAME	CASRN	Total or Dissolved	RPD	Ratio	Primary Result	Primary Qualifier	Primary Limit	Duplicate Result	Duplicate Qualifier	Duplicate Limit	Average Result	Average Qualifier	Average Limit	Result Unit
AST	PB-191-07	PB-191-07-SS01	12/9/2021	VOC	Benzene	71-43-2	T	43%	1.5		U	1.10E-03		U	7.10E-04		U	9.05E-04	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	VOC	Cumene	98-82-8	T	115%	3.7		U	2.20E-03	8.20E-03		1.40E-03	4.65E-03	J	1.80E-03	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	VOC	1,2-Dibromoethane	106-93-4	T	43%	1.5		U	1.10E-03		U	7.10E-04		U	9.05E-04	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	VOC	1,2-Dichloroethane	107-06-2	T	44%	1.6		U	2.20E-03		U	1.40E-03		U	1.80E-03	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	VOC	Ethyl Benzene	100-41-4	T	44%	1.6		U	2.20E-03		U	1.40E-03		U	1.80E-03	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	VOC	Methyl tert-butyl ether	1634-04-4	T	42%	1.5		U	4.30E-03		U	2.80E-03		U	3.55E-03	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	VOC	Toluene	108-88-3	T	44%	1.6		U	2.20E-03		U	1.40E-03		U	1.80E-03	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	VOC	1,2,4-Trimethylbenzene	95-63-6	T	42%	1.5		U	4.30E-03		U	2.80E-03		U	3.55E-03	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	VOC	1,3,5-Trimethylbenzene	108-67-8	T	42%	1.5		U	4.30E-03		U	2.80E-03		U	3.55E-03	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	VOC	Xylenes (total)	1330-20-7	T	42%	1.5		U	4.30E-03		U	2.80E-03		U	3.55E-03	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	SVOC	Anthracene	120-12-7	T	29%	1.3	1.60E-01		1.20E-01		U	1.20E-01	1.10E-01	J	1.20E-01	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	SVOC	Benzo(a)anthracene	56-55-3	T	55%	1.8	2.10E-01		1.20E-01		U	1.20E-01	1.35E-01	J	1.20E-01	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	SVOC	Benzo(a)pyrene	50-32-8	T	12%	1.1	1.80E-01		1.60E-01		U	1.60E-01	1.30E-01	J	1.60E-01	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	SVOC	Benzo(b)fluoranthene	205-99-2	T	34%	1.4	1.70E-01		1.20E-01		U	1.20E-01	1.15E-01	J	1.20E-01	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	SVOC	Benzo(g,h,i)perylene	191-24-2	T	17%	1.2	1.90E-01		1.60E-01		U	1.60E-01	1.35E-01	J	1.60E-01	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	SVOC	Chrysene	218-01-9	T	74%	2.2	2.60E-01		1.20E-01		U	1.20E-01	1.60E-01	J	1.20E-01	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	SVOC	Fluorene	86-73-7	T	32%	1.4	6.10E-02	J	2.00E-01	4.40E-02	J	2.00E-01	5.25E-02	J	2.00E-01	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	T	37%	1.5	1.10E-01	J	1.60E-01		U	1.60E-01	9.50E-02	J	1.60E-01	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	SVOC	Naphthalene	91-20-3	T	14%	1.2	2.30E-01		2.00E-01		U	2.00E-01	1.65E-01	J	2.00E-01	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	SVOC	Phenanthrene	85-01-8	T	146%	6.4	7.70E-01		1.20E-01		U	1.20E-01	4.15E-01	J	1.20E-01	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	SVOC	Pyrene	129-00-0	T	182%	21.0	4.40E-01		1.20E-01	2.10E-02	J	1.20E-01	2.31E-01	J	1.20E-01	mg/kg
AST	PB-191-07	PB-191-07-SS01	12/9/2021	INORG	Lead	7439-92-1	T	21%	1.2	1.76E+02		4.59E+00	2.18E+02		4.72E+00	1.97E+02		4.66E+00	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	VOC	Benzene	71-43-2	T	195%	79.1		U	8.60E-04	6.80E-02		3.60E-02	3.42E-02	J	1.84E-02	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	VOC	Cumene	98-82-8	T	199%	588.2		U	1.70E-03	1.00E+00		7.10E-02	5.00E-01	J	3.64E-02	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	VOC	1,2-Dibromoethane	106-93-4	T	191%	41.9		U	8.60E-04		U	3.60E-02		U	1.84E-02	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	VOC	1,2-Dichloroethane	107-06-2	T	191%	41.8		U	1.70E-03		U	7.10E-02		U	3.64E-02	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	VOC	Ethyl Benzene	100-41-4	T	199%	329.4		U	1.70E-03	5.60E-01		7.10E-02	2.80E-01	J	3.64E-02	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	VOC	Methyl tert-butyl ether	1634-04-4	T	191%	41.2		U	3.40E-03		U	1.40E-01		U	7.17E-02	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	VOC	Toluene	108-88-3	T	187%	30.0		U	1.70E-03	5.10E-02	J	7.10E-02	2.59E-02	J	3.64E-02	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	VOC	1,2,4-Trimethylbenzene	95-63-6	T	200%	4411.8		U	3.40E-03	1.50E+01		1.40E-01	7.50E+00	J	7.17E-02	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	VOC	1,3,5-Trimethylbenzene	108-67-8	T	200%	1411.8		U	3.40E-03	4.80E+00		1.40E-01	2.40E+00	J	7.17E-02	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	VOC	Xylenes (total)	1330-20-7	T	200%	8647.1		U	3.40E-03	2.94E+01	J	1.40E-01	1.47E+01	J	7.17E-02	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	SVOC	Anthracene	120-12-7	T	18%	1.2		U	1.20E-01		U	1.00E-01		U	1.10E-01	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	SVOC	Benzo(a)anthracene	56-55-3	T	88%	2.6	6.90E-02	J	1.20E-01	2.70E-02	J	1.00E-01	4.80E-02	J	1.10E-01	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	SVOC	Benzo(a)pyrene	50-32-8	T	90%	2.6	5.30E-02	J	1.50E-01		U	1.40E-01	6.15E-02	J	1.45E-01	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	SVOC	Benzo(b)fluoranthene	205-99-2	T	62%	1.9	5.50E-02	J	1.20E-01	2.90E-02	J	1.00E-01	4.20E-02	J	1.10E-01	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	SVOC	Benzo(g,h,i)perylene	191-24-2	T	41%	1.5	4.10E-02	J	1.50E-01	2.70E-02	J	1.40E-01	3.40E-02	J	1.45E-01	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	SVOC	Chrysene	218-01-9	T	45%	1.6	9.50E-02	J	1.20E-01	1.50E-01		1.00E-01	1.23E-01	J	1.10E-01	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	SVOC	Fluorene	86-73-7	T	69%	2.1		U	1.90E-01	3.90E-01		1.70E-01	2.43E-01	J	1.80E-01	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	SVOC	Naphthalene	91-20-3	T	192%	51.9	5.20E-02	J	1.90E-01	2.70E+00		1.70E-01	1.38E+00	J	1.80E-01	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	SVOC	Phenanthrene	85-01-8	T	147%	6.6	1.50E-01		1.20E-01	9.90E-01		1.00E-01	5.70E-01		1.10E-01	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	SVOC	Pyrene	129-00-0	T	72%	2.1	1.80E-01		1.20E-01	8.50E-02	J	1.00E-01	1.33E-01	J	1.10E-01	mg/kg
AST	PB-826-15	PB-826-15-SS01	7/14/2022	INORG	Lead	7439-92-1	T	196%	95.3	1.62E+02		2.20E+00	1.70E+00	J	2.11E+00	8.19E+01	J	2.16E+00	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	VOC	Benzene	71-43-2	T	165%	10.5	6.00E-03		8.00E-04		U	5.70E-04	3.14E-03	J	6.85E-04	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	VOC	Cumene	98-82-8	T	157%	8.4	9.20E-03		1.60E-03		U	1.10E-03	4.88E-03	J	1.35E-03	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	VOC	1,2-Dibromoethane	106-93-4	T	34%	1.4		U	8.00E-04		U	5.70E-04		U	6.85E-04	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	VOC	1,2-Dichloroethane	107-06-2	T	37%	1.5		U	1.60E-03		U	1.10E-03		U	1.35E-03	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	VOC	Ethyl Benzene	100-41-4	T	47%	1.6	6.80E-04	J	1.60E-03		U	1.10E-03	6.15E-04	J	1.35E-03	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	VOC	Methyl tert-butyl ether	1634-04-4	T	33%	1.4		U	3.20E-03		U	2.30E-03		U	2.75E-03	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	VOC	Toluene	108-88-3	T	81%	2.4	2.60E-03		1.60E-03		U	1.10E-03	1.58E-03	J	1.35E-03	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	VOC	1,2,4-Trimethylbenzene	95-63-6	T	49%	1.6	1.40E-03	J	3.20E-03		U	2.30E-03	1.28E-03	J	2.75E-03	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	VOC	1,3,5-Trimethylbenzene	108-67-8	T	0%	1.0	2.30E-03	J	3.20E-03		U	2.30E-03	1.73E-03	J	2.75E-03	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	VOC	Xylenes (total)	1330-20-7	T	111%	3.5	8.00E-03	J	3.20E-03		U	2.30E-03	4.58E-03	J	2.75E-03	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	SVOC	Anthracene	120-12-7	T	26%	1.3		U	1.20E-01	9.20E-02	J	1.10E-01	7.60E-02	J	1.15E-01	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	SVOC	Benzo(a)anthracene	56-55-3	T	98%	2.9	1.50E-01		1.20E-01	4.40E-01		1.10E-01	2.95E-01		1.15E-01	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	SVOC	Benzo(a)pyrene	50-32-8	T	91%	2.7	1.50E-01	J	1.60E-01	4.00E-01		1.50E-01	2.75E-01	J	1.55E-01	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	SVOC	Benzo(b)fluoranthene	205-99-2	T	97%	2.9	1.80E-01		1.20E-01	5.20E-01		1.10E-01	3.50E-01		1.15E-01	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	SVOC	Benzo(g,h,i)perylene	191-24-2	T	40%	1.5	1.20E-01	J	1.60E-01	1.80E-01		1.50E-01	1.50E-01	J	1.55E-01	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	SVOC	Chrysene	218-01-9	T	65%	2.0	2.20E-01		1.20E-01	4.30E-01		1.10E-01	3.25E-01		1.15E-01	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	SVOC	Fluorene	86-73-7	T	117%	3.8		U	2.00E-01	5.20E-02	J	1.90E-01	7.60E-02	J	1.95E-01	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	SVOC	Naphthalene	91-20-3	T	2%	1.0	4.60E-02	J	2.00E-01	4.50E-02	J	1.90E-01	4.55E-02	J	1.95E-01	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	SVOC	Phenanthrene	85-01-8	T	69%	2.1	1.90E-01		1.20E-01	3.90E-01		1.10E-01	2.90E-01		1.15E-01	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	SVOC	Pyrene	129-00-0	T	86%	2.5	2.10E-01		1.20E-01	5.30E-01		1.10E-01	3.70E-01		1.15E-01	mg/kg
AST	PB-840-01	PB-840-01-SS01	7/8/2022	INORG	Lead	7439-92-1	T	63%	1.9	1.92E+01		4.58E+00	3.67E+01		2.20E+00	2.80E+01		3.39E+00	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	VOC	Benzene	71-43-2	T	81%	2.4		U	1.40E-03		U	5.90E-04		U	9.95E-04	mg/kg

Table I7
Soil RPD Calculations
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Dataset	Location Code	Sample Name	Sample Date	Chem Group	PARAMNAME	CASRN	Total or Dissolved	RPD	Ratio	Primary Result	Primary Qualifier	Primary Limit	Duplicate Result	Duplicate Qualifier	Duplicate Limit	Average Result	Average Qualifier	Average Limit	Result Unit
AST	PB-841-09	PB-841-09-SS01	7/12/2022	VOC	Cumene	98-82-8	T	77%	2.3		U	2.70E-03		U	1.20E-03		U	1.95E-03	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	VOC	1,2-Dibromoethane	106-93-4	T	81%	2.4		U	1.40E-03		U	5.90E-04		U	9.95E-04	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	VOC	1,2-Dichloroethane	107-06-2	T	77%	2.3		U	2.70E-03		U	1.20E-03		U	1.95E-03	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	VOC	Ethyl Benzene	100-41-4	T	77%	2.3		U	2.70E-03		U	1.20E-03		U	1.95E-03	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	VOC	Methyl tert-butyl ether	1634-04-4	T	78%	2.3		U	5.50E-03		U	2.40E-03		U	3.95E-03	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	VOC	Toluene	108-88-3	T	77%	2.3		U	2.70E-03		U	1.20E-03		U	1.95E-03	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	VOC	1,2,4-Trimethylbenzene	95-63-6	T	78%	2.3		U	5.50E-03		U	2.40E-03		U	3.95E-03	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	VOC	1,3,5-Trimethylbenzene	108-67-8	T	78%	2.3		U	5.50E-03		U	2.40E-03		U	3.95E-03	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	VOC	Xylenes (total)	1330-20-7	T	78%	2.3		U	5.50E-03		U	2.40E-03		U	3.95E-03	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	SVOC	Anthracene	120-12-7	T	47%	1.6	6.20E-02	J	1.10E-01		U	1.00E-01	5.60E-02	J	1.05E-01	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	SVOC	Benzo(a)anthracene	56-55-3	T	75%	2.2	2.20E-01		1.10E-01		U	1.00E-01	1.35E-01	J	1.05E-01	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	SVOC	Benzo(a)pyrene	50-32-8	T	56%	1.8	2.30E-01		1.50E-01		U	1.30E-01	1.48E-01	J	1.40E-01	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	SVOC	Benzo(b)fluoranthene	205-99-2	T	95%	2.8	2.80E-01		1.10E-01		U	1.00E-01	1.65E-01	J	1.05E-01	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	SVOC	Benzo(g,h,i)perylene	191-24-2	T	17%	1.2	1.10E-01	J	1.50E-01		U	1.30E-01	8.75E-02	J	1.40E-01	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	SVOC	Chrysene	218-01-9	T	75%	2.2	2.20E-01		1.10E-01		U	1.00E-01	1.35E-01	J	1.05E-01	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	SVOC	Fluorene	86-73-7	T	147%	6.5	2.60E-02	J	1.90E-01		U	1.70E-01	5.55E-02	J	1.80E-01	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	SVOC	Naphthalene	91-20-3	T	11%	1.1		U	1.90E-01		U	1.70E-01		U	1.80E-01	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	SVOC	Phenanthrene	85-01-8	T	67%	2.0	2.00E-01		1.10E-01		U	1.00E-01	1.25E-01	J	1.05E-01	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	SVOC	Pyrene	129-00-0	T	111%	3.5	3.50E-01		1.10E-01		U	1.00E-01	2.00E-01	J	1.05E-01	mg/kg
AST	PB-841-09	PB-841-09-SS01	7/12/2022	INORG	Lead	7439-92-1	T	33%	1.4	5.00E+00		2.17E+00	3.60E+00		2.00E+00	4.30E+00		2.09E+00	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	VOC	Benzene	71-43-2	T	93%	2.8	2.40E-04	J	6.30E-04		U	6.60E-04	2.85E-04	J	6.45E-04	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	VOC	Cumene	98-82-8	T	133%	5.0	2.60E-04	J	1.30E-03		U	1.30E-03	4.55E-04	J	1.30E-03	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	VOC	1,2-Dibromoethane	106-93-4	T	5%	1.0		U	6.30E-04		U	6.60E-04		U	6.45E-04	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	VOC	1,2-Dichloroethane	107-06-2	T	0%	1.0		U	1.30E-03		U	1.30E-03		U	1.30E-03	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	VOC	Ethyl Benzene	100-41-4	T	0%	1.0		U	1.30E-03		U	1.30E-03		U	1.30E-03	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	VOC	Methyl tert-butyl ether	1634-04-4	T	141%	5.8	4.50E-04	J	2.50E-03		U	2.60E-03	8.75E-04	J	2.55E-03	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	VOC	Toluene	108-88-3	T	0%	1.0		U	1.30E-03		U	1.30E-03		U	1.30E-03	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	VOC	1,2,4-Trimethylbenzene	95-63-6	T	4%	1.0		U	2.50E-03		U	2.60E-03		U	2.55E-03	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	VOC	1,3,5-Trimethylbenzene	108-67-8	T	4%	1.0		U	2.50E-03		U	2.60E-03		U	2.55E-03	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	VOC	Xylenes (total)	1330-20-7	T	4%	1.0		U	2.50E-03		U	2.60E-03		U	2.55E-03	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	SVOC	Anthracene	120-12-7	T	9%	1.1		U	1.10E-01		U	1.20E-01		U	1.15E-01	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	SVOC	Benzo(a)anthracene	56-55-3	T	133%	5.0		U	1.10E-01	2.20E-02	J	1.20E-01	3.85E-02	J	1.15E-01	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	SVOC	Benzo(a)pyrene	50-32-8	T	6%	1.1		U	1.50E-01		U	1.60E-01		U	1.55E-01	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	SVOC	Benzo(b)fluoranthene	205-99-2	T	9%	1.1		U	1.10E-01		U	1.20E-01		U	1.15E-01	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	SVOC	Benzo(g,h,i)perylene	191-24-2	T	6%	1.1		U	1.50E-01		U	1.60E-01		U	1.55E-01	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	SVOC	Chrysene	218-01-9	T	9%	1.1		U	1.10E-01		U	1.20E-01		U	1.15E-01	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	SVOC	Fluorene	86-73-7	T	5%	1.1		U	1.90E-01		U	2.00E-01		U	1.95E-01	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	SVOC	Naphthalene	91-20-3	T	5%	1.1		U	1.90E-01		U	2.00E-01		U	1.95E-01	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	SVOC	Phenanthrene	85-01-8	T	124%	4.2		U	1.10E-01	2.60E-02	J	1.20E-01	4.05E-02	J	1.15E-01	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	SVOC	Pyrene	129-00-0	T	124%	4.2		U	1.10E-01	2.60E-02	J	1.20E-01	4.05E-02	J	1.15E-01	mg/kg
AST	PB-843-11	PB-843-11-SS01	7/11/2022	INORG	Lead	7439-92-1	T	102%	3.1	5.83E+00		2.25E+00	1.80E+01		4.67E+00	1.19E+01		3.46E+00	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	VOC	Benzene	71-43-2	T	4%	1.0		U	4.60E-04		U	4.40E-04		U	4.50E-04	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	VOC	Cumene	98-82-8	T	4%	1.0		U	9.30E-04		U	8.90E-04		U	9.10E-04	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	VOC	1,2-Dibromoethane	106-93-4	T	4%	1.0		U	4.60E-04		U	4.40E-04		U	4.50E-04	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	VOC	1,2-Dichloroethane	107-06-2	T	4%	1.0		U	9.30E-04		U	8.90E-04		U	9.10E-04	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	VOC	Ethyl Benzene	100-41-4	T	4%	1.0		U	9.30E-04		U	8.90E-04		U	9.10E-04	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	VOC	Methyl tert-butyl ether	1634-04-4	T	0%	1.0		U	1.80E-03		U	1.80E-03		U	1.80E-03	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	VOC	Toluene	108-88-3	T	4%	1.0		U	9.30E-04		U	8.90E-04		U	9.10E-04	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	VOC	1,2,4-Trimethylbenzene	95-63-6	T	0%	1.0		U	1.80E-03		U	1.80E-03		U	1.80E-03	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	VOC	1,3,5-Trimethylbenzene	108-67-8	T	0%	1.0		U	1.80E-03		U	1.80E-03		U	1.80E-03	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	VOC	Xylenes (total)	1330-20-7	T	0%	1.0		U	1.80E-03		U	1.80E-03		U	1.80E-03	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	SVOC	Anthracene	120-12-7	T	0%	1.0		U	1.20E-01		U	1.20E-01		U	1.20E-01	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	SVOC	Benzo(a)anthracene	56-55-3	T	0%	1.0		U	1.20E-01		U	1.20E-01		U	1.20E-01	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	SVOC	Benzo(a)pyrene	50-32-8	T	0%	1.0		U	1.60E-01		U	1.60E-01		U	1.60E-01	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	SVOC	Benzo(b)fluoranthene	205-99-2	T	0%	1.0		U	1.20E-01		U	1.20E-01		U	1.20E-01	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	SVOC	Benzo(g,h,i)perylene	191-24-2	T	0%	1.0		U	1.60E-01		U	1.60E-01		U	1.60E-01	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	SVOC	Chrysene	218-01-9	T	0%	1.0		U	1.20E-01		U	1.20E-01		U	1.20E-01	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	SVOC	Fluorene	86-73-7	T	0%	1.0		U	2.00E-01		U	2.00E-01		U	2.00E-01	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	SVOC	Naphthalene	91-20-3	T	0%	1.0		U	2.00E-01		U	2.00E-01		U	2.00E-01	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	SVOC	Phenanthrene	85-01-8	T	0%	1.0		U	1.20E-01		U	1.20E-01		U	1.20E-01	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	SVOC	Pyrene	129-00-0	T	0%	1.0		U	1.20E-01		U	1.20E-01		U	1.20E-01	mg/kg
AST	PB-847-02	PB-847-02-SS01	7/8/2022	INORG	Lead	7439-92-1	T	3%	1.0	4.67E+00		2.42E+00	4.52E+00		2.34E+00	4.60E+00		2.38E+00	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	VOC	Benzene	71-43-2	T	13%	1.1		U	5.60E-04		U	4.90E-04		U	5.25E-04	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	VOC	Cumene	98-82-8	T	12%	1.1		U	1.10E-03		U	9.80E-04		U	1.04E-03	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	VOC	1,2-Dibromoethane	106-93-4	T	13%	1.1		U	5.60E-04		U	4.90E-04		U	5.25E-04	mg/kg

Table I7
Soil RPD Calculations
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Dataset	Location Code	Sample Name	Sample Date	Chem Group	PARAMNAME	CASRN	Total or Dissolved	RPD	Ratio	Primary Result	Primary Qualifier	Primary Limit	Duplicate Result	Duplicate Qualifier	Duplicate Limit	Average Result	Average Qualifier	Average Limit	Result Unit
AST	PB-848-05	PB-848-05-SS01	7/11/2022	VOC	1,2-Dichloroethane	107-06-2	T	12%	1.1		U	1.10E-03		U	9.80E-04		U	1.04E-03	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	VOC	Ethyl Benzene	100-41-4	T	12%	1.1		U	1.10E-03		U	9.80E-04		U	1.04E-03	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	VOC	Methyl tert-butyl ether	1634-04-4	T	26%	1.3	7.40E-04	J	2.20E-03	5.70E-04	J	2.00E-03	6.55E-04	J	2.10E-03	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	VOC	Toluene	108-88-3	T	12%	1.1		U	1.10E-03		U	9.80E-04		U	1.04E-03	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	VOC	1,2,4-Trimethylbenzene	95-63-6	T	10%	1.1		U	2.20E-03		U	2.00E-03		U	2.10E-03	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	VOC	1,3,5-Trimethylbenzene	108-67-8	T	10%	1.1		U	2.20E-03		U	2.00E-03		U	2.10E-03	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	VOC	Xylenes (total)	1330-20-7	T	10%	1.1		U	2.20E-03		U	2.00E-03		U	2.10E-03	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	SVOC	Anthracene	120-12-7	T	0%	1.0		U	1.20E-01		U	1.20E-01		U	1.20E-01	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	SVOC	Benzo(a)anthracene	56-55-3	T	74%	2.2		U	1.20E-01	5.50E-02	J	1.20E-01	5.75E-02	J	1.20E-01	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	SVOC	Benzo(a)pyrene	50-32-8	T	108%	3.3		U	1.60E-01	4.80E-02	J	1.60E-01	6.40E-02	J	1.60E-01	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	SVOC	Benzo(b)fluoranthene	205-99-2	T	77%	2.3		U	1.20E-01	5.30E-02	J	1.20E-01	5.65E-02	J	1.20E-01	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	SVOC	Benzo(g,h,i)perylene	191-24-2	T	144%	6.2		U	1.60E-01	2.60E-02	J	1.60E-01	5.30E-02	J	1.60E-01	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	SVOC	Chrysene	218-01-9	T	86%	2.5		U	1.20E-01	4.80E-02	J	1.20E-01	5.40E-02	J	1.20E-01	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	SVOC	Fluorene	86-73-7	T	97%	2.9	6.90E-02	J	2.00E-01		U	2.00E-01	8.45E-02	J	2.00E-01	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	SVOC	Naphthalene	91-20-3	T	142%	5.9	3.40E-02	J	2.00E-01		U	2.00E-01	6.70E-02	J	2.00E-01	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	SVOC	Phenanthrene	85-01-8	T	51%	1.7	5.40E-02	J	1.20E-01	9.10E-02	J	1.20E-01	7.25E-02	J	1.20E-01	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	SVOC	Pyrene	129-00-0	T	40%	1.5		U	1.20E-01	8.00E-02	J	1.20E-01	7.00E-02	J	1.20E-01	mg/kg
AST	PB-848-05	PB-848-05-SS01	7/11/2022	INORG	Lead	7439-92-1	T	78%	2.3	8.21E+00		4.59E+00	1.88E+01		2.22E+00	1.35E+01		3.41E+00	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	VOC	Benzene	71-43-2	T	42%	1.5		U	2.10E-02		U	3.20E-02		U	2.65E-02	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	VOC	Cumene	98-82-8	T	30%	1.3	8.90E-03	J	4.20E-02	1.20E-02	J	6.50E-02	1.05E-02	J	5.35E-02	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	VOC	1,2-Dibromoethane	106-93-4	T	42%	1.5		U	2.10E-02		U	3.20E-02		U	2.65E-02	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	VOC	1,2-Dichloroethane	107-06-2	T	43%	1.5		U	4.20E-02		U	6.50E-02		U	5.35E-02	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	VOC	Ethyl Benzene	100-41-4	T	43%	1.5		U	4.20E-02		U	6.50E-02		U	5.35E-02	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	VOC	Methyl tert-butyl ether	1634-04-4	T	43%	1.5		U	8.40E-02		U	1.30E-01		U	1.07E-01	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	VOC	Toluene	108-88-3	T	43%	1.5		U	4.20E-02		U	6.50E-02		U	5.35E-02	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	VOC	1,2,4-Trimethylbenzene	95-63-6	T	72%	2.1	4.70E-01		8.40E-02	1.00E+00		1.30E-01	7.35E-01		1.07E-01	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	VOC	1,3,5-Trimethylbenzene	108-67-8	T	69%	2.0	2.20E-01		8.40E-02	4.50E-01		1.30E-01	3.35E-01		1.07E-01	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	VOC	Xylenes (total)	1330-20-7	T	16%	1.2	5.90E-02	J	8.40E-02	6.95E-02	J	1.30E-01	6.43E-02	J	1.07E-01	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	SVOC	Anthracene	120-12-7	T	45%	1.6	4.00E-02	J	1.00E-01	6.30E-02	J	1.10E-01	5.15E-02	J	1.05E-01	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	SVOC	Benzo(a)anthracene	56-55-3	T	34%	1.4	2.20E-02	J	1.00E-01	3.10E-02	J	1.10E-01	2.65E-02	J	1.05E-01	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	SVOC	Benzo(a)pyrene	50-32-8	T	0%	1.0		U	1.40E-01		U	1.40E-01		U	1.40E-01	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	SVOC	Benzo(b)fluoranthene	205-99-2	T	10%	1.1		U	1.00E-01		U	1.10E-01		U	1.05E-01	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	SVOC	Benzo(g,h,i)perylene	191-24-2	T	0%	1.0		U	1.40E-01		U	1.40E-01		U	1.40E-01	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	SVOC	Chrysene	218-01-9	T	53%	1.7	8.70E-02	J	1.00E-01	1.50E-01		1.10E-01	1.19E-01	J	1.05E-01	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	SVOC	Fluorene	86-73-7	T	56%	1.8	2.30E-01		1.70E-01	4.10E-01		1.80E-01	3.20E-01		1.75E-01	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	SVOC	Naphthalene	91-20-3	T	170%	12.5	4.80E-02	J	1.70E-01	6.00E-01		1.80E-01	3.24E-01	J	1.75E-01	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	SVOC	Phenanthrene	85-01-8	T	59%	1.8	4.80E-01		1.00E-01	8.80E-01		1.10E-01	6.80E-01		1.05E-01	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	SVOC	Pyrene	129-00-0	T	44%	1.6	6.40E-02	J	1.00E-01	1.00E-01	J	1.10E-01	8.20E-02	J	1.05E-01	mg/kg
AST	PB-881-07	PB-881-07-SS01	7/12/2022	INORG	Lead	7439-92-1	T	0%	1.0	1.48E+00	J	1.98E+00	1.48E+00	J	2.05E+00	1.48E+00	J	2.02E+00	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	VOC	Benzene	71-43-2	T	9%	1.1		U	5.90E-04		U	5.40E-04		U	5.65E-04	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	VOC	Cumene	98-82-8	T	9%	1.1		U	1.20E-03		U	1.10E-03		U	1.15E-03	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	VOC	1,2-Dibromoethane	106-93-4	T	9%	1.1		U	5.90E-04		U	5.40E-04		U	5.65E-04	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	VOC	1,2-Dichloroethane	107-06-2	T	9%	1.1		U	1.20E-03		U	1.10E-03		U	1.15E-03	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	VOC	Ethyl Benzene	100-41-4	T	9%	1.1		U	1.20E-03		U	1.10E-03		U	1.15E-03	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	VOC	Methyl tert-butyl ether	1634-04-4	T	9%	1.1		U	2.30E-03		U	2.10E-03		U	2.20E-03	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	VOC	Toluene	108-88-3	T	9%	1.1		U	1.20E-03		U	1.10E-03		U	1.15E-03	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	VOC	1,2,4-Trimethylbenzene	95-63-6	T	9%	1.1		U	2.30E-03		U	2.10E-03		U	2.20E-03	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	VOC	1,3,5-Trimethylbenzene	108-67-8	T	9%	1.1		U	2.30E-03		U	2.10E-03		U	2.20E-03	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	VOC	Xylenes (total)	1330-20-7	T	9%	1.1		U	2.30E-03		U	2.10E-03		U	2.20E-03	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	SVOC	Anthracene	120-12-7	T	0%	1.0		U	1.20E-01		U	1.20E-01		U	1.20E-01	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	SVOC	Benzo(a)anthracene	56-55-3	T	0%	1.0		U	1.20E-01		U	1.20E-01		U	1.20E-01	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	SVOC	Benzo(a)pyrene	50-32-8	T	0%	1.0		U	1.60E-01		U	1.60E-01		U	1.60E-01	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	SVOC	Benzo(b)fluoranthene	205-99-2	T	0%	1.0		U	1.20E-01		U	1.20E-01		U	1.20E-01	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	SVOC	Benzo(g,h,i)perylene	191-24-2	T	0%	1.0		U	1.60E-01		U	1.60E-01		U	1.60E-01	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	SVOC	Chrysene	218-01-9	T	0%	1.0		U	1.20E-01		U	1.20E-01		U	1.20E-01	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	SVOC	Fluorene	86-73-7	T	0%	1.0		U	2.00E-01		U	2.00E-01		U	2.00E-01	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	SVOC	Naphthalene	91-20-3	T	0%	1.0		U	2.00E-01		U	2.00E-01		U	2.00E-01	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	SVOC	Phenanthrene	85-01-8	T	0%	1.0		U	1.20E-01		U	1.20E-01		U	1.20E-01	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	SVOC	Pyrene	129-00-0	T	0%	1.0		U	1.20E-01		U	1.20E-01		U	1.20E-01	mg/kg
AST	PB-884-12	PB-884-12-SS01	12/3/2021	INORG	Lead	7439-92-1	T	162%	9.6	5.65E+00		2.40E+00	5.43E+01		2.37E+00	3.00E+01		2.39E+00	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	VOC	Benzene	71-43-2	T	11%	1.1		U	4.10E-04		U	4.60E-04		U	4.35E-04	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	VOC	Cumene	98-82-8	T	13%	1.1		U	8.20E-04		U	9.30E-04		U	8.75E-04	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	VOC	1,2-Dibromoethane	106-93-4	T	11%	1.1		U	4.10E-04		U	4.60E-04		U	4.35E-04	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	VOC	1,2-Dichloroethane	107-06-2	T	13%	1.1		U	8.20E-04		U	9.30E-04		U	8.75E-04	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	VOC	Ethyl Benzene	100-41-4	T	13%	1.1		U	8.20E-04		U	9.30E-04		U	8.75E-04	mg/kg

Table I7
Soil RPD Calculations
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Dataset	Location Code	Sample Name	Sample Date	Chem Group	PARAMNAME	CASRN	Total or Dissolved	RPD	Ratio	Primary Result	Primary Qualifier	Primary Limit	Duplicate Result	Duplicate Qualifier	Duplicate Limit	Average Result	Average Qualifier	Average Limit	Result Unit
AST	PB-885-17	PB-885-17-SS01	7/15/2022	VOC	Methyl tert-butyl ether	1634-04-4	T	12%	1.1		U	1.60E-03		U	1.80E-03		U	1.70E-03	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	VOC	Toluene	108-88-3	T	13%	1.1		U	8.20E-04		U	9.30E-04		U	8.75E-04	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	VOC	1,2,4-Trimethylbenzene	95-63-6	T	12%	1.1		U	1.60E-03		U	1.80E-03		U	1.70E-03	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	VOC	1,3,5-Trimethylbenzene	108-67-8	T	12%	1.1		U	1.60E-03		U	1.80E-03		U	1.70E-03	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	VOC	Xylenes (total)	1330-20-7	T	12%	1.1		U	1.60E-03		U	1.80E-03		U	1.70E-03	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	SVOC	Anthracene	120-12-7	T	0%	1.0		U	1.10E-01		U	1.10E-01		U	1.10E-01	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	SVOC	Benzo(a)anthracene	56-55-3	T	0%	1.0		U	1.10E-01		U	1.10E-01		U	1.10E-01	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	SVOC	Benzo(a)pyrene	50-32-8	T	0%	1.0		U	1.50E-01		U	1.50E-01		U	1.50E-01	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	SVOC	Benzo(b)fluoranthene	205-99-2	T	0%	1.0		U	1.10E-01		U	1.10E-01		U	1.10E-01	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	SVOC	Benzo(g,h,i)perylene	191-24-2	T	0%	1.0		U	1.50E-01		U	1.50E-01		U	1.50E-01	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	SVOC	Chrysene	218-01-9	T	0%	1.0		U	1.10E-01		U	1.10E-01		U	1.10E-01	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	SVOC	Fluorene	86-73-7	T	5%	1.1		U	1.90E-01		U	1.80E-01		U	1.85E-01	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	SVOC	Naphthalene	91-20-3	T	5%	1.1		U	1.90E-01		U	1.80E-01		U	1.85E-01	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	SVOC	Phenanthrene	85-01-8	T	0%	1.0		U	1.10E-01		U	1.10E-01		U	1.10E-01	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	SVOC	Pyrene	129-00-0	T	0%	1.0		U	1.10E-01		U	1.10E-01		U	1.10E-01	mg/kg
AST	PB-885-17	PB-885-17-SS01	7/15/2022	INORG	Lead	7439-92-1	T	38%	1.5	1.53E+00	J	2.21E+00	2.24E+00		2.16E+00	1.89E+00	J	2.19E+00	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	VOC	Benzene	71-43-2	T	193%	58.6		U	5.80E-04		U	3.40E-02		U	1.73E-02	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	VOC	Cumene	98-82-8	T	200%	1666.7		U	1.20E-03	2.00E+00		6.70E-02	1.00E+00	J	3.41E-02	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	VOC	1,2-Dibromoethane	106-93-4	T	193%	58.6		U	5.80E-04		U	3.40E-02		U	1.73E-02	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	VOC	1,2-Dichloroethane	107-06-2	T	193%	55.8		U	1.20E-03		U	6.70E-02		U	3.41E-02	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	VOC	Ethyl Benzene	100-41-4	T	172%	13.3		U	1.20E-03	1.60E-02	J	6.70E-02	8.30E-03	J	3.41E-02	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	VOC	Methyl tert-butyl ether	1634-04-4	T	193%	56.5		U	2.30E-03		U	1.30E-01		U	6.62E-02	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	VOC	Toluene	108-88-3	T	193%	55.8		U	1.20E-03		U	6.70E-02		U	3.41E-02	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	VOC	1,2,4-Trimethylbenzene	95-63-6	T	184%	23.5		U	2.30E-03	5.40E-02	J	1.30E-01	2.76E-02	J	6.62E-02	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	VOC	1,3,5-Trimethylbenzene	108-67-8	T	193%	56.5		U	2.30E-03		U	1.30E-01		U	6.62E-02	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	VOC	Xylenes (total)	1330-20-7	T	191%	43.9		U	2.30E-03	1.01E-01	J	1.30E-01	5.11E-02	J	6.62E-02	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	SVOC	Anthracene	120-12-7	T	189%	37.0		U	1.00E-01	3.70E+00		2.40E+00	1.88E+00	J	1.25E+00	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	SVOC	Benzo(a)anthracene	56-55-3	T	184%	24.0		U	1.00E-01		U	2.40E+00		U	1.25E+00	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	SVOC	Benzo(a)pyrene	50-32-8	T	183%	22.9		U	1.40E-01		U	3.20E+00		U	1.67E+00	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	SVOC	Benzo(b)fluoranthene	205-99-2	T	184%	24.0		U	1.00E-01		U	2.40E+00		U	1.25E+00	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	SVOC	Benzo(g,h,i)perylene	191-24-2	T	183%	22.9		U	1.40E-01		U	3.20E+00		U	1.67E+00	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	SVOC	Chrysene	218-01-9	T	184%	24.0		U	1.00E-01		U	2.40E+00		U	1.25E+00	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	SVOC	Fluorene	86-73-7	T	195%	82.4		U	1.70E-01	1.40E+01		4.00E+00	7.04E+00	J	2.09E+00	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	SVOC	Naphthalene	91-20-3	T	184%	23.5		U	1.70E-01		U	4.00E+00		U	2.09E+00	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	SVOC	Phenanthrene	85-01-8	T	199%	290.0		U	1.00E-01	2.90E+01		2.40E+00	1.45E+01	J	1.25E+00	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	SVOC	Pyrene	129-00-0	T	187%	29.0		U	1.00E-01	2.90E+00		2.40E+00	1.48E+00	J	1.25E+00	mg/kg
AST	PB-885-23	PB-885-23-SS01	12/7/2021	INORG	Lead	7439-92-1	T	82%	2.4	2.80E+00		2.08E+00	6.69E+00		2.29E+00	4.75E+00		2.19E+00	mg/kg
AST	PB-886-09	PB-886-09-SS01	10/7/2021	VOC	Benzene	71-43-2	T	33%	1.4		U	4.50E-04		U	6.30E-04		U	5.40E-04	mg/kg
AST	PB-886-09	PB-886-09-SS01	10/7/2021	VOC	Cumene	98-82-8	T	9%	1.1		U	9.00E-04	9.80E-04	J	1.30E-03	7.15E-04	J	1.10E-03	mg/kg
AST	PB-886-09	PB-886-09-SS01	10/7/2021	VOC	1,2-Dibromoethane	106-93-4	T	33%	1.4		U	4.50E-04		U	6.30E-04		U	5.40E-04	mg/kg
AST	PB-886-09	PB-886-09-SS01	10/7/2021	VOC	1,2-Dichloroethane	107-06-2	T	36%	1.4		U	9.00E-04		U	1.30E-03		U	1.10E-03	mg/kg
AST	PB-886-09	PB-886-09-SS01	10/7/2021	VOC	Ethyl Benzene	100-41-4	T	93%	2.7		U	9.00E-04	3.30E-04	J	1.30E-03	3.90E-04	J	1.10E-03	mg/kg
AST	PB-886-09	PB-886-09-SS01	10/7/2021	VOC	Methyl tert-butyl ether	1634-04-4	T	33%	1.4		U	1.80E-03		U	2.50E-03		U	2.15E-03	mg/kg
AST	PB-886-09	PB-886-09-SS01	10/7/2021	VOC	Toluene	108-88-3	T	36%	1.4		U	9.00E-04		U	1.30E-03		U	1.10E-03	mg/kg
AST	PB-886-09	PB-886-09-SS01	10/7/2021	VOC	1,2,4-Trimethylbenzene	95-63-6	T	173%	13.9		U	1.80E-03	2.50E-02		2.50E-03	1.30E-02	J	2.15E-03	mg/kg
AST	PB-886-09	PB-886-09-SS01	10/7/2021	VOC	1,3,5-Trimethylbenzene	108-67-8	T	172%	13.3		U	1.80E-03	2.40E-02		2.50E-03	1.25E-02	J	2.15E-03	mg/kg
AST	PB-886-09	PB-886-09-SS01	10/7/2021	VOC	Xylenes (total)	1330-20-7	T	14%	1.2		U	1.80E-03	2.07E-03	J	2.50E-03	1.49E-03	J	2.15E-03	mg/kg
AST	PB-886-09	PB-886-09-SS01	10/7/2021	SVOC	Anthracene	120-12-7	T	0%	1.0		U	1.00E-01		U	1.00E-01		U	1.00E-01	MG/KG
AST	PB-886-09	PB-886-09-SS01	10/7/2021	SVOC	Benzo(a)anthracene	56-55-3	T	0%	1.0		U	1.00E-01		U	1.00E-01		U	1.00E-01	MG/KG
AST	PB-886-09	PB-886-09-SS01	10/7/2021	SVOC	Benzo(a)pyrene	50-32-8	T	0%	1.0		U	1.40E-01		U	1.40E-01		U	1.40E-01	MG/KG
AST	PB-886-09	PB-886-09-SS01	10/7/2021	SVOC	Benzo(b)fluoranthene	205-99-2	T	0%	1.0		U	1.00E-01		U	1.00E-01		U	1.00E-01	MG/KG
AST	PB-886-09	PB-886-09-SS01	10/7/2021	SVOC	Benzo(g,h,i)perylene	191-24-2	T	0%	1.0		U	1.40E-01		U	1.40E-01		U	1.40E-01	MG/KG
AST	PB-886-09	PB-886-09-SS01	10/7/2021	SVOC	Chrysene	218-01-9	T	0%	1.0		U	1.00E-01		U	1.00E-01		U	1.00E-01	MG/KG
AST	PB-886-09	PB-886-09-SS01	10/7/2021	SVOC	Fluorene	86-73-7	T	0%	1.0		U	1.80E-01		U	1.80E-01		U	1.80E-01	MG/KG
AST	PB-886-09	PB-886-09-SS01	10/7/2021	SVOC	Naphthalene	91-20-3	T	0%	1.0		U	1.80E-01		U	1.80E-01		U	1.80E-01	MG/KG
AST	PB-886-09	PB-886-09-SS01	10/7/2021	SVOC	Phenanthrene	85-01-8	T	0%	1.0		U	1.00E-01		U	1.00E-01		U	1.00E-01	MG/KG
AST	PB-886-09	PB-886-09-SS01	10/7/2021	SVOC	Pyrene	129-00-0	T	0%	1.0		U	1.00E-01		U	1.00E-01		U	1.00E-01	MG/KG
AST	PB-886-09	PB-886-09-SS01	10/7/2021	INORG	Lead	7439-92-1	T	6%	1.1	1.76E+00	J	2.10E+00	1.87E+00	J	2.09E+00	1.82E+00	J	2.10E+00	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	VOC	Benzene	71-43-2	T	31%	1.4		U	6.10E-04		U	8.30E-04		U	7.20E-04	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	VOC	Cumene	98-82-8	T	34%	1.4		U	1.20E-03		U	1.70E-03		U	1.45E-03	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	VOC	1,2-Dibromoethane	106-93-4	T	31%	1.4		U	6.10E-04		U	8.30E-04		U	7.20E-04	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	VOC	1,2-Dichloroethane	107-06-2	T	34%	1.4		U	1.20E-03		U	1.70E-03		U	1.45E-03	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	VOC	Ethyl Benzene	100-41-4	T	34%	1.4		U	1.20E-03		U	1.70E-03		U	1.45E-03	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	VOC	Methyl tert-butyl ether	1634-04-4	T	32%	1.4		U	2.40E-03		U	3.30E-03		U	2.85E-03	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	VOC	Toluene	108-88-3	T	34%	1.4		U	1.20E-03		U	1.70E-03		U	1.45E-03	mg/kg

Table I7
Soil RPD Calculations
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Dataset	Location Code	Sample Name	Sample Date	Chem Group	PARAMNAME	CASRN	Total or Dissolved	RPD	Ratio	Primary Result	Primary Qualifier	Primary Limit	Duplicate Result	Duplicate Qualifier	Duplicate Limit	Average Result	Average Qualifier	Average Limit	Result Unit
AST	PB-886-14	PB-886-14-SS01	7/15/2022	VOC	1,2,4-Trimethylbenzene	95-63-6	T	32%	1.4		U	2.40E-03		U	3.30E-03		U	2.85E-03	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	VOC	1,3,5-Trimethylbenzene	108-67-8	T	32%	1.4		U	2.40E-03		U	3.30E-03		U	2.85E-03	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	VOC	Xylenes (total)	1330-20-7	T	32%	1.4		U	2.40E-03		U	3.30E-03		U	2.85E-03	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	SVOC	Anthracene	120-12-7	T	0%	1.0		U	1.10E-01		U	1.10E-01		U	1.10E-01	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	SVOC	Benzo(a)anthracene	56-55-3	T	0%	1.0		U	1.10E-01		U	1.10E-01		U	1.10E-01	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	SVOC	Benzo(a)pyrene	50-32-8	T	0%	1.0		U	1.50E-01		U	1.50E-01		U	1.50E-01	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	SVOC	Benzo(b)fluoranthene	205-99-2	T	0%	1.0		U	1.10E-01		U	1.10E-01		U	1.10E-01	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	SVOC	Benzo(g,h,i)perylene	191-24-2	T	0%	1.0		U	1.50E-01		U	1.50E-01		U	1.50E-01	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	SVOC	Chrysene	218-01-9	T	0%	1.0		U	1.10E-01		U	1.10E-01		U	1.10E-01	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	SVOC	Fluorene	86-73-7	T	0%	1.0		U	1.80E-01		U	1.80E-01		U	1.80E-01	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	SVOC	Naphthalene	91-20-3	T	0%	1.0		U	1.80E-01		U	1.80E-01		U	1.80E-01	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	SVOC	Phenanthrene	85-01-8	T	0%	1.0		U	1.10E-01		U	1.10E-01		U	1.10E-01	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	SVOC	Pyrene	129-00-0	T	0%	1.0		U	1.10E-01		U	1.10E-01		U	1.10E-01	mg/kg
AST	PB-886-14	PB-886-14-SS01	7/15/2022	INORG	Lead	7439-92-1	T	6%	1.1	2.16E+00	J	2.18E+00	2.04E+00	J	2.14E+00	2.10E+00	J	2.16E+00	mg/kg

Table I8
Groundwater RPD Calculations
Tank Group 04
Bellwether District Holdings, LLC, Philadelphia, PA

Dataset	Location Code	Sample Name	Sample Date	Chem Group	PARAMNAME	CASRN	Total or Dissolved	RPD	Ratio	Primary Result	Primary Qualifier	Primary Limit	Duplicate Result	Duplicate Qualifier	Duplicate Limit	Average Result	Average Qualifier	Average Limit	Result Unit
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	VOC	Benzene	71-43-2	T	4%	1.0	5.30E-01		2.50E-03	5.10E-01		2.50E-03	5.20E-01		2.50E-03	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	VOC	Cumene	98-82-8	T	10%	1.1	6.40E-02		2.50E-03	5.80E-02		2.50E-03	6.10E-02		2.50E-03	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	VOC	1,2-Dibromoethane	106-93-4	T	0%	1.0		U	1.00E-05		U	1.00E-05		U	1.00E-05	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	VOC	1,2-Dichloroethane	107-06-2	T	0%	1.0		U	2.50E-03		U	2.50E-03		U	2.50E-03	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	VOC	Ethyl Benzene	100-41-4	T	8%	1.1	9.60E-02		2.50E-03	8.90E-02		2.50E-03	9.25E-02		2.50E-03	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	VOC	Methyl tert-butyl ether	1634-04-4	T	0%	1.0		U	5.00E-03		U	5.00E-03		U	5.00E-03	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	VOC	Toluene	108-88-3	T	4%	1.0	1.00E-02		3.80E-03	9.60E-03		3.80E-03	9.80E-03		3.80E-03	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	VOC	1,2,4-Trimethylbenzene	95-63-6	T	4%	1.0	4.70E-02		1.20E-02	4.50E-02		1.20E-02	4.60E-02		1.20E-02	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	VOC	1,3,5-Trimethylbenzene	108-67-8	T	9%	1.1	1.20E-02		1.20E-02	1.10E-02	J	1.20E-02	1.15E-02	J	1.20E-02	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	VOC	Xylenes (total)	1330-20-7	T	5%	1.1	1.96E-01	J	5.00E-03	1.86E-01	J	5.00E-03	1.91E-01	J	5.00E-03	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	SVOC	Anthracene	120-12-7	T	33%	1.4	2.30E-04		1.00E-04	3.20E-04		1.00E-04	2.75E-04		1.00E-04	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	SVOC	Benzo(a)anthracene	56-55-3	T	0%	1.0	2.00E-05	J	5.00E-05	2.00E-05	J	5.00E-05	2.00E-05	J	5.00E-05	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	SVOC	Benzo(a)pyrene	50-32-8	T	0%	1.0		U	1.00E-04		U	1.00E-04		U	1.00E-04	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	SVOC	Benzo(b)fluoranthene	205-99-2	T	0%	1.0		U	5.00E-05		U	5.00E-05		U	5.00E-05	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	SVOC	Benzo(g,h,i)perylene	191-24-2	T	0%	1.0		U	1.00E-04		U	1.00E-04		U	1.00E-04	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	SVOC	Chrysene	218-01-9	T	0%	1.0		U	1.00E-04		U	1.00E-04		U	1.00E-04	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	SVOC	Fluorene	86-73-7	T	10%	1.1	5.00E-04		1.00E-04	5.50E-04		1.00E-04	5.25E-04		1.00E-04	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	T	0%	1.0		U	1.00E-04		U	1.00E-04		U	1.00E-04	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	SVOC	Naphthalene	91-20-3	T	155%	7.9	1.90E-04		1.00E-04	1.50E-03		1.00E-04	8.45E-04		1.00E-04	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	SVOC	Phenanthrene	85-01-8	T	0%	1.0	4.00E-05	J	5.00E-05	4.00E-05	J	5.00E-05	4.00E-05	J	5.00E-05	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	SVOC	Pyrene	129-00-0	T	40%	1.5	2.00E-05	J	1.00E-04	3.00E-05	J	1.00E-04	2.50E-05	J	1.00E-04	MG/L
AST	TG04-MW-01	TG04-MW-01-230209	2/9/2023	INORG	Lead	7439-92-1	D	0%	1.0		U	1.00E-03		U	1.00E-03		U	1.00E-03	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	VOC	Benzene	71-43-2	T	0%	1.0		U	5.00E-04		U	5.00E-04		U	5.00E-04	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	VOC	Cumene	98-82-8	T	0%	1.0		U	5.00E-04		U	5.00E-04		U	5.00E-04	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	VOC	1,2-Dibromoethane	106-93-4	T	0%	1.0		U	1.00E-05		U	1.00E-05		U	1.00E-05	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	VOC	1,2-Dichloroethane	107-06-2	T	0%	1.0		U	5.00E-04		U	5.00E-04		U	5.00E-04	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	VOC	Ethyl Benzene	100-41-4	T	0%	1.0		U	5.00E-04		U	5.00E-04		U	5.00E-04	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	VOC	Methyl tert-butyl ether	1634-04-4	T	0%	1.0		U	1.00E-03		U	1.00E-03		U	1.00E-03	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	VOC	Toluene	108-88-3	T	0%	1.0		U	7.50E-04		U	7.50E-04		U	7.50E-04	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	VOC	1,2,4-Trimethylbenzene	95-63-6	T	0%	1.0		U	2.50E-03		U	2.50E-03		U	2.50E-03	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	VOC	1,3,5-Trimethylbenzene	108-67-8	T	0%	1.0		U	2.50E-03		U	2.50E-03		U	2.50E-03	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	VOC	Xylenes (total)	1330-20-7	T	0%	1.0		U	1.00E-03		U	1.00E-03		U	1.00E-03	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	SVOC	Anthracene	120-12-7	T	0%	1.0		U	1.00E-04		U	1.00E-04		U	1.00E-04	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	SVOC	Benzo(a)anthracene	56-55-3	T	50%	1.7		U	5.00E-05	3.00E-05	J	5.00E-05	2.75E-05	J	5.00E-05	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	SVOC	Benzo(a)pyrene	50-32-8	T	0%	1.0		U	1.00E-04		U	1.00E-04		U	1.00E-04	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	SVOC	Benzo(b)fluoranthene	205-99-2	T	0%	1.0		U	5.00E-05		U	5.00E-05		U	5.00E-05	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	SVOC	Benzo(g,h,i)perylene	191-24-2	T	0%	1.0		U	1.00E-04		U	1.00E-04		U	1.00E-04	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	SVOC	Chrysene	218-01-9	T	0%	1.0		U	1.00E-04		U	1.00E-04		U	1.00E-04	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	SVOC	Fluorene	86-73-7	T	0%	1.0		U	1.00E-04		U	1.00E-04		U	1.00E-04	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	T	0%	1.0		U	1.00E-04		U	1.00E-04		U	1.00E-04	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	SVOC	Naphthalene	91-20-3	T	0%	1.0		U	1.00E-04		U	1.00E-04		U	1.00E-04	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	SVOC	Phenanthrene	85-01-8	T	0%	1.0		U	5.00E-05		U	5.00E-05		U	5.00E-05	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	SVOC	Pyrene	129-00-0	T	0%	1.0		U	1.00E-04		U	1.00E-04		U	1.00E-04	MG/L
AST	TG04-MW-03	TG04-MW-03-230104	1/4/2023	INORG	Lead	7439-92-1	D	0%	1.0		U	1.00E-03		U	1.00E-03		U	1.00E-03	MG/L